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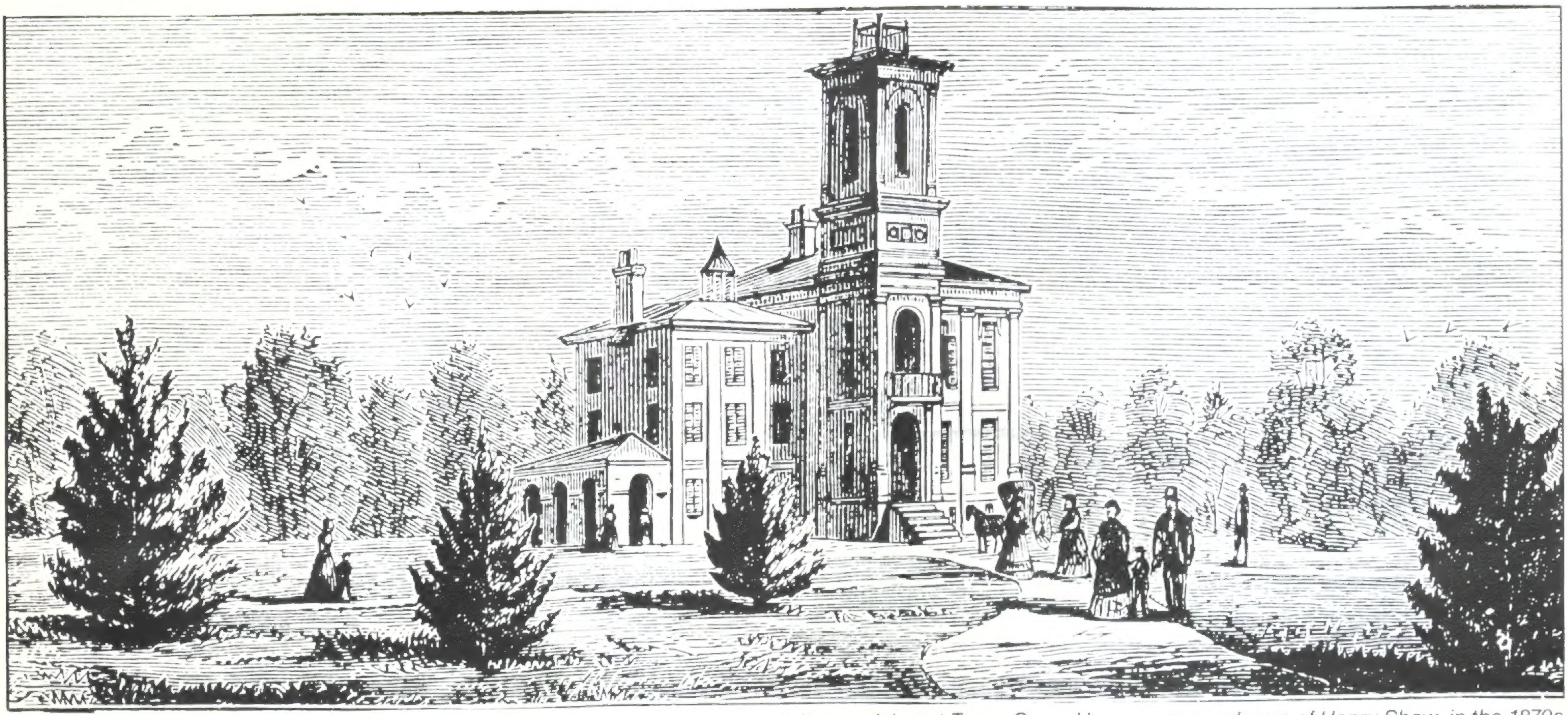
1859 • 1984

125th Anniversary
Missouri Botanical Garden

February 1984
Volume LXXII, Number 1

Missouri Botanical Garden Bulletin



Visitors arriving at Tower Grove House, summer home of Henry Shaw, in the 1870s.

125
Years of Service

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The MISSOURI BOTANICAL GARDEN BULLETIN is published seven times a year, in February, April, May, June, August, October, and December by the Missouri Botanical Garden, 2345 Tower Grove, St. Louis, Mo. 63110. Second Class postage paid at St. Louis, Mo. $12.00 per year. $15 foreign.

The **Missouri Botanical Garden Bulletin** is sent to every Member of the Garden as one of the benefits of their membership. For a contribution as little as $30 per year, Members also are entitled to: free admission to the Garden, Shaw Arboretum, and Tower Grove House; invitations to special events and receptions; announcements of all lectures and classes; discounts in the Garden shops and for course fees; and the opportunity to travel, domestic and abroad, with other Members. For information, please call 577-5100.

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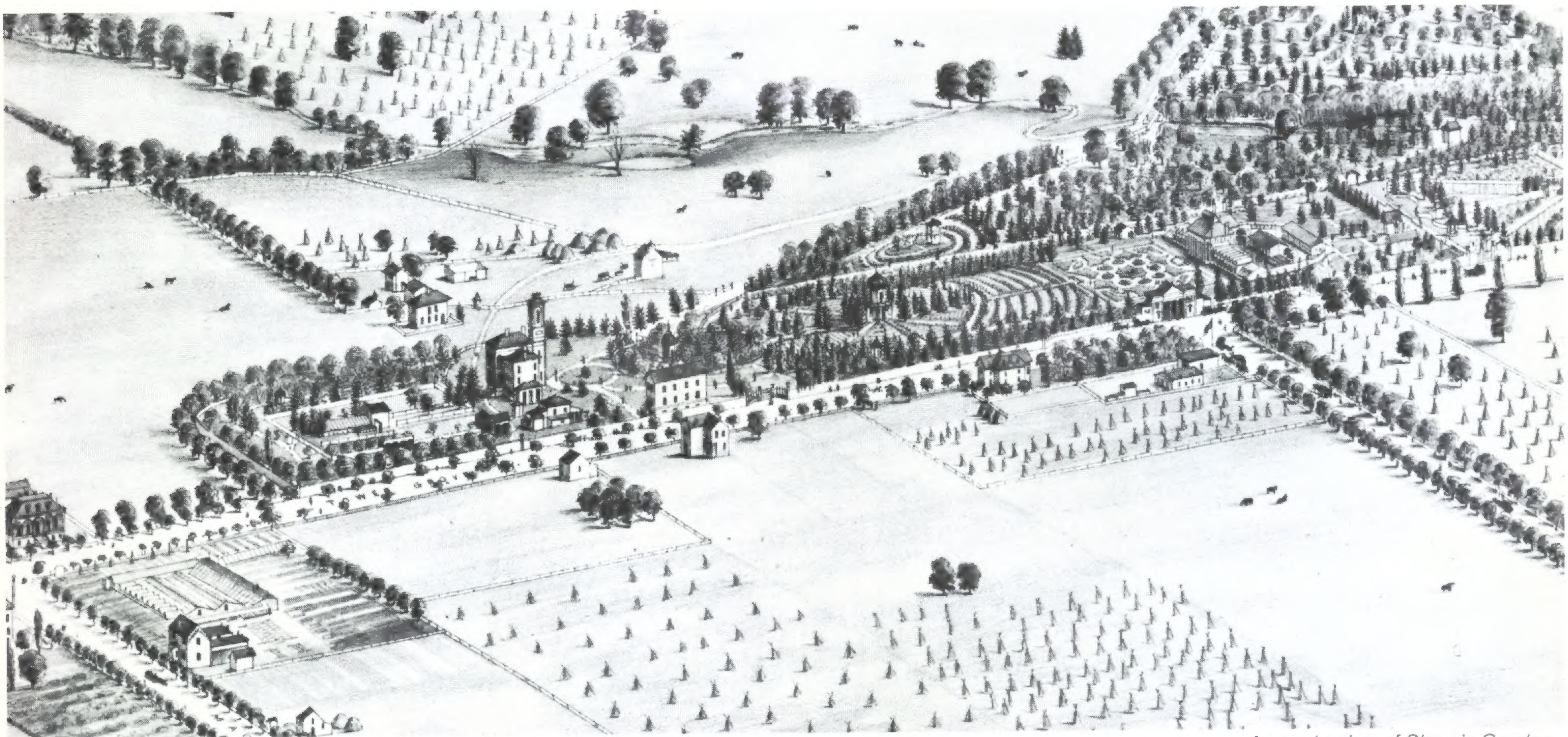
The Vision of Henry Shaw

by William Barnaby Faherty, S.J.



An early plan of Shaw's Garden.

If Henry Shaw could visit again his familiar acres in southwest Saint Louis, he would see startling improvements that have enriched the world-famous botanical garden that he left as his legacy. He would enter through the Ridgway Center, reminiscent of the Crystal Palace he visited in London in 1851. It houses the plant shop, a floral display hall, a 400-seat auditorium, and an extensive educational facility. He could justly recognize that it reflected his three-fold concern for beauty, preservation, and education.

When Shaw left the Center and entered the Garden beyond, he could choose to walk along the tree-lined path or take the tram toward the Climatron. On his way he would pass the familiar Linnean House with the rose garden in front. He would probably walk toward the gate on Tower Grove Avenue opposite the west end of Flora Boulevard, and look back to where the Old Conservatory stood during his late years. Beyond the lily pond that he would remember so well, he would see the incredible Climatron, the world's first geodesic-dome greenhouse. Entering, he would find himself almost miraculously transported to the tropics. He would revel in orchids and many lovely flowers he had never seen before.

After leaving the Climatron, he would choose his own path slowly to the southeast, passing the Shapleigh Fountain and a great variety of trees. He would remember his country home, Tower Grove House. But a new structure would rise up before him, the glass-walled John S. Lehmann Building that provides space for a herbarium of three million plant specimens and 125,000 books and other publications.

As he walked through the English Woodland Garden toward the southwestern section that had remained an open space for so long a time, he would again find himself in another world: the fourteen-acre Japanese Garden, unequalled in the United States. He could readily imagine Mount Fujiyama rising out of the clouds beyond. Moving past the waterfall, and around the lake, he might see a professor of Far Eastern History from a local university showing his students that at no point could one see the other end of the lake. This reflected the Japanese fascination with infinity: something always lay beyond. Shaw would walk slowly around the still waters, viewing from varying vantages the tea-house on its little island. . . .

All of us can recall gratefully that Henry Shaw left to his fellow Saint Louisans, to the nation and to the world, more than lovely flowers, more even than the oldest botanical garden in the United States. He left the resources and the vision that could open display houses showing the plant life from various parts of the world, begin an educational and research center to advance

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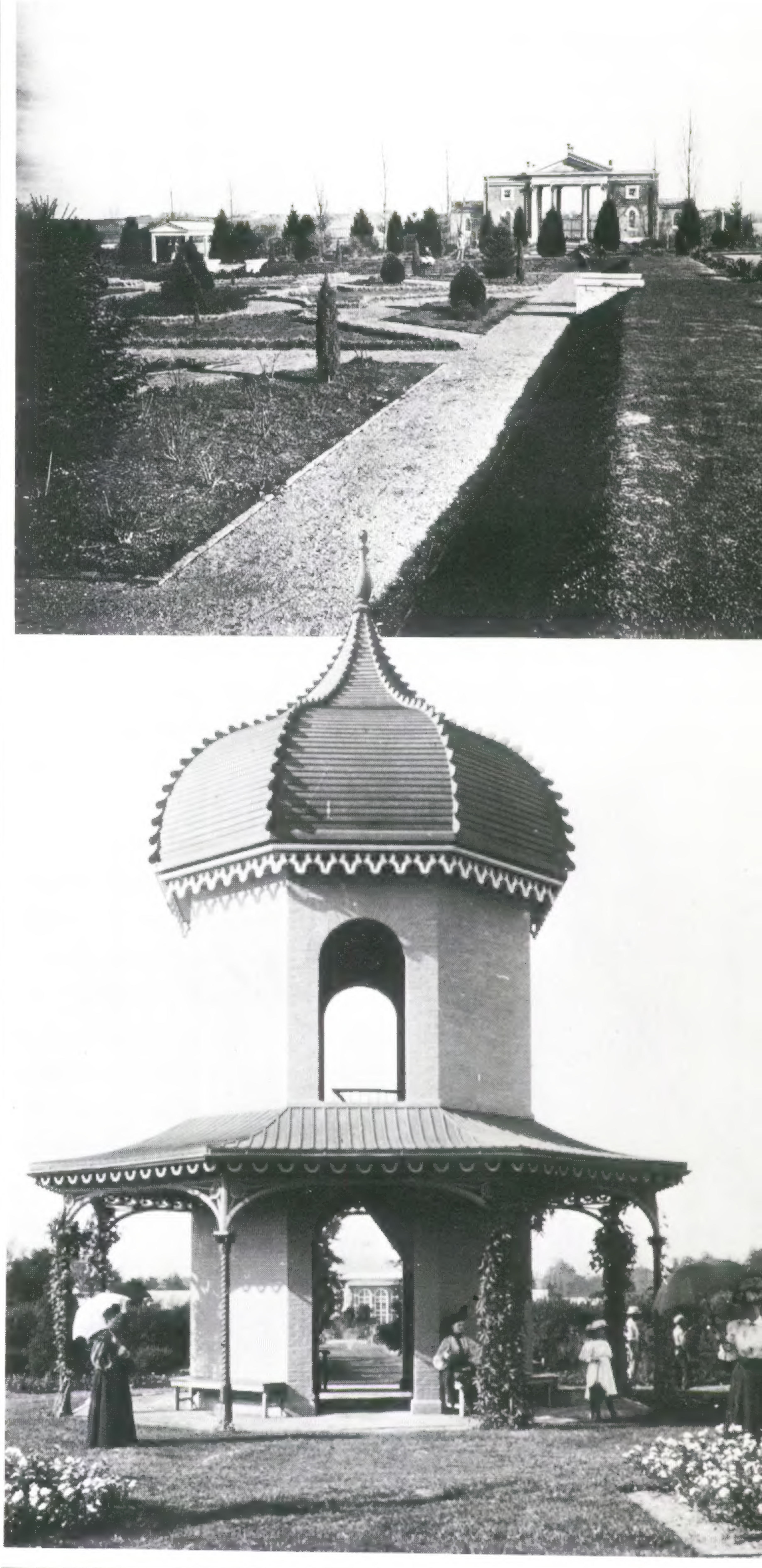

the science of botany and other related fields, and create a group of unusual buildings that span almost a century and a half of architectural skills and styles.

Even more, Shaw left a legacy of concern for the natural world about him; he spurred others to enhance that concern; and he made it possible that future generations could carry on in the wise path he and his associates pointed out. And finally, he reminded future generations that amassing money in itself was not a viable life goal but a means of enhancing the quality of life. He did that for all of us. . . .

Henry Shaw lived in the days of the great New England men of letters—Longfellow, Hawthorne, Emerson, and Thoreau—when the oratory in the halls of Congress reached a high rarely equalled in the western world, with Webster and Hayne, Clay and Calhoun debating the great issues of Federalism and Freedom.

He came to Saint Louis almost with the first steamboat. His career reached beyond the coming of the rails. He lived on the frontier when French mountain men from the area were still pushing west to tap the great beaver trade of the Rockies; when the gold and silver of Mexico rolled back from Santa Fe on wagons made by his neighbors Murphy and Espencheid; when the Saint Louis-owned Missouri River steamboats, *Trapper* and *Frolic*, chugged their slow but steady way to the Yellowstone; when men envisioned the Pacific Ocean as the western boundary of the nation and coined the term "Manifest Destiny" to give an almost divine authorization to their fondest ambitions.

It was to Saint Louis' and the nation's lasting benefit that he lived in those expanding times; and that, when he closed his books for 1840 he found that he had amassed twenty-five thousand dollars in merchandising in that one year alone. Rejecting any ambition for greater gains the following year, he turned his attention to life enrichment. This determination, in turn, enriched the lives of all Saint Louisans to come after him.

The son of an Enlgish merchant, the well educated 19-year-old Henry Shaw came to Saint Louis from Louisiana on the *Maid of Orleans* in 1819. The city had welcomed the first steamboat only two years before, and gave promise of great growth and prosperity as the Gateway of the West.

An astute merchandiser, Shaw supplied hardware and other goods to local residents, western pioneers, and soldiers on the military posts. He brought his supplies by water from New Orleans and the eastern seaboard via the Gulf, and even from his native England. He soon gained a reputation as an even-tempered man, friendly in social relationships, though shrewd and demanding in business dealings.

In 1842, he purchased a tract of prairie land about a mile and a half square, west of Grand between Arsenal and Lafayette Avenue, that stretched to the King's Highway. By that time, he had amassed a quarter of a million dollars. He decided to turn to other things.

He built Tower Grove House on his extensive acreage southwest of the city in 1849. Otherwise, much of the Forties and early Fifties he devoted to travel. In early 1851 he sailed for England to attend the first World's Fair. He attended the Horticultural Display at the Crystal Palace.

Returning to Saint Louis, he began to peruse books on botany. In 1853 he expressed a definite interest in setting up a botanical garden, and finished his preliminary plan two years later. In 1856, he sought the advice of Dr. George Engelmann,

Opposite, top—The Flora Gate in the 1860s.
Below—The Pavilion (no longer standing) in the 1890s.

This page, top—The Flora Gate in the 1890s.
Center—Chrysanthemem display, 1906.
Bottom—The Linnean House, ca. 1890.

chief of staff at a Saint Louis hospital, founder of the local chapter of the Academy of Science, and one of the day's most eminent botanists. Convinced that Shaw should set up a botanical library and museum in the Garden, Engelmann sought the support of Sir William Jackson Hooker, Director of the world-famous Garden at Kew in England, and of Harvard Professor Asa Gray, one of America's foremost botanists. Shaw carefully considered the advice of these experts.

In 1858, Shaw planned a gateway in classical style on Tower Grove Avenue, and saw to the building of a high stone wall around the Garden. To house the library and herbarium, he commissioned work on the Museum Building designed after its counterpart at Kew. At the advice of Engelmann and Asa Gray, Shaw hired botanist August Fendler as curator of the herbarium.

Shortly after the Civil War, Shaw built a main display greenhouse, already mentioned, the "Old Conservatory." He added a multi-purpose building with a gallery on several sides that gained the name "The Casino." It stood at Tower Grove and Magnolia and housed at various times a lecture hall, a dormitory and a restaurant. The only greenhouse built in Shaw's time to last to the present, the Linnean House, went up in 1881-82. Bearing the name of the Swedish scientist, Carl Linnaeus, it was to outlast all other public greenhouses in the United States. The last major construction on the property during the founder's lifetime was his mausoleum, built in 1884.

In the meantime, distinguished visitors—including journalist Horace Greeley and writer Mark Twain—visited the Garden. In his book *Life on the Mississippi*, the Missouri story-teller praised the Botanical Garden and another project of Henry Shaw, Tower Grove Park. Shaw had long wanted to give to the city his property south of the Garden. Hard bargaining businessman that he was, Shaw insisted that the city uphold his vision for the park as it extended its boundaries beyond Grand Avenue. Shaw wanted the entire Tower Grove neighborhood to be a unique district full of trees and flowers. The park itself became a paradise of architectural gems—entrances, pergola, pagodas, statues and busts of artists and educators, authors and explorers (but no military heroes)—and a variety of trees, native and introduced, equalled by few parks in the nation. Shaw advocated the less formal way of English gardens, rather than the intricate patterns and unnatural trimming of continental gardens.

The dedication of the Linnean Greenhouse in 1882 marked the completion of the Garden as Shaw envisioned it. At a meeting of the Board of Directors on June 8, 1885, he had one last proposal: he wanted Washington University to set up a school of Botany named for him; and a professorship in botany, named for George Engelmann who had died in the meantime; and to invite Professor William Trelease of the University of Wisconsin to hold that chair. Shaw did not live to see this proposal fulfilled in its entirety. He died on August 25, 1889.

The following month, immediately after the probating of Shaw's will, the Trustees of the Garden elected Professor Trelease as first director. Trelease gave wise guidance immediately. First, he made necessary physical repairs. Then he began a series of annual reports that helped to make the Garden more widely known.

As an early result of the Trelease efforts, Dr. Lewis Sturtevant of Massachusetts gave his extensive collection of medieval and modern botanical works, a major step in ranking the library among the finest in the world. Trelease commissioned the pub-

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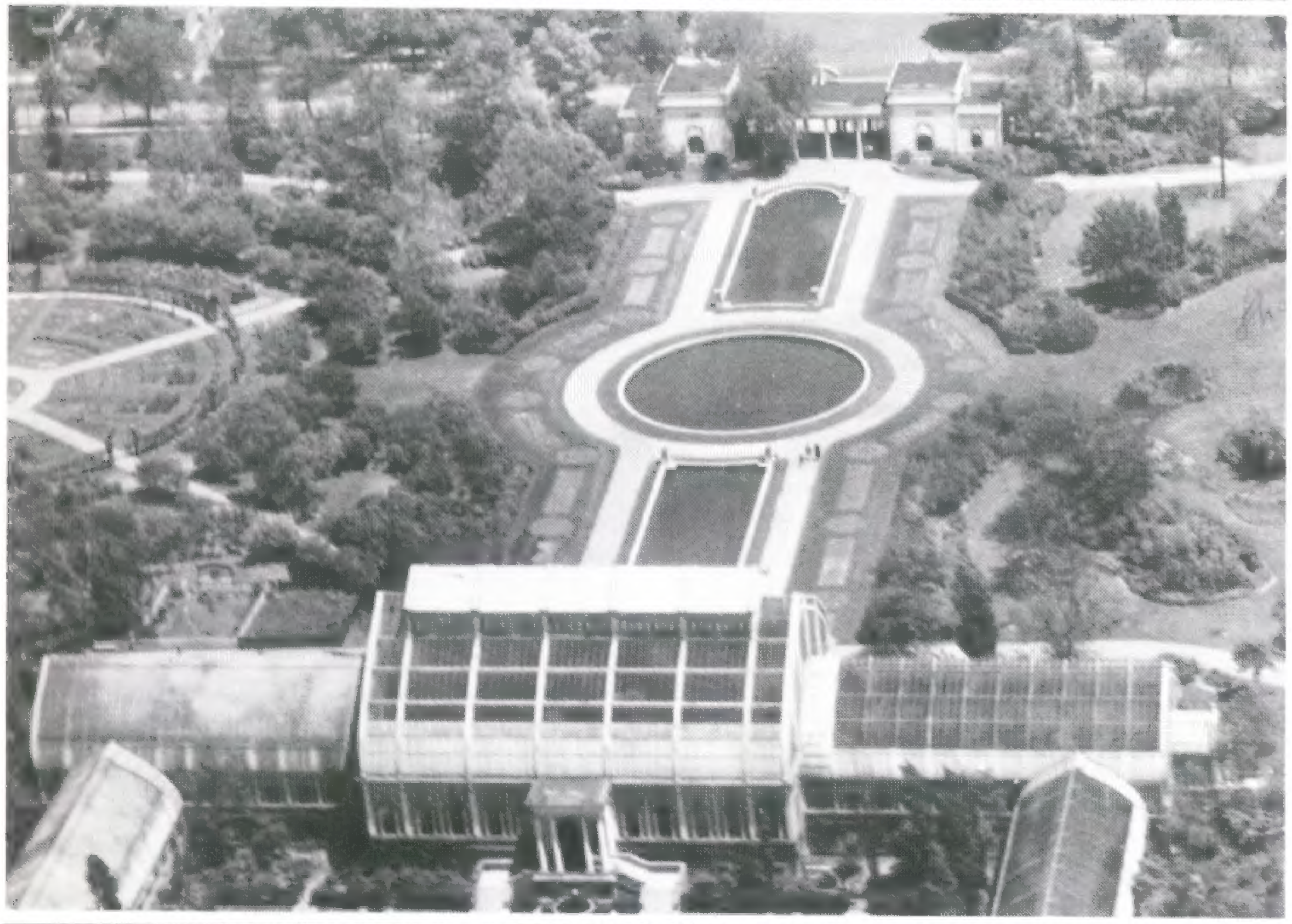


This page, top to bottom:

Gardening staff, ca. 1890.
Aerial view of the Garden showing the Palm House, ca. 1930.
Iris test garden, ca. 1930.
Inset—George Pring, Garden staff member, collecting orchids on the Andes of Bogota.
Bottom, left—Tropical Station, Balboa C.Z., Flora of Panama, ca. 1931.
Bottom, right—Research facilities before opening of the Lehmann Building, 1972.

lication of a small handbook describing the Garden. He awarded the Henry Shaw medal to outstanding amateu gardeners, built the huge lily ponds, and commissioned a master plan for the future development of the Garden. He was to remain director until 1912.

Between World War I and World War II, several individuals influenced the Garden's development. Paul Kohl supervised the impressive floral displays. Edgar Anderson, expert geneticis and Garden Director for a short time, kept the name of the Garden known to botanists and spread its fame among ordinary citizens.

As the Garden reached the mid-Twentieth Century, the need to enlarge or replace facilities and to meet new challenges fa outreached the traditional base of support. One of the main tasks before the men and women of the Garden was to acquain the community with the facts. Most Saint Louisans seemed to look upon the Garden as a city-supported institution, like the zoo or the Art Museum.

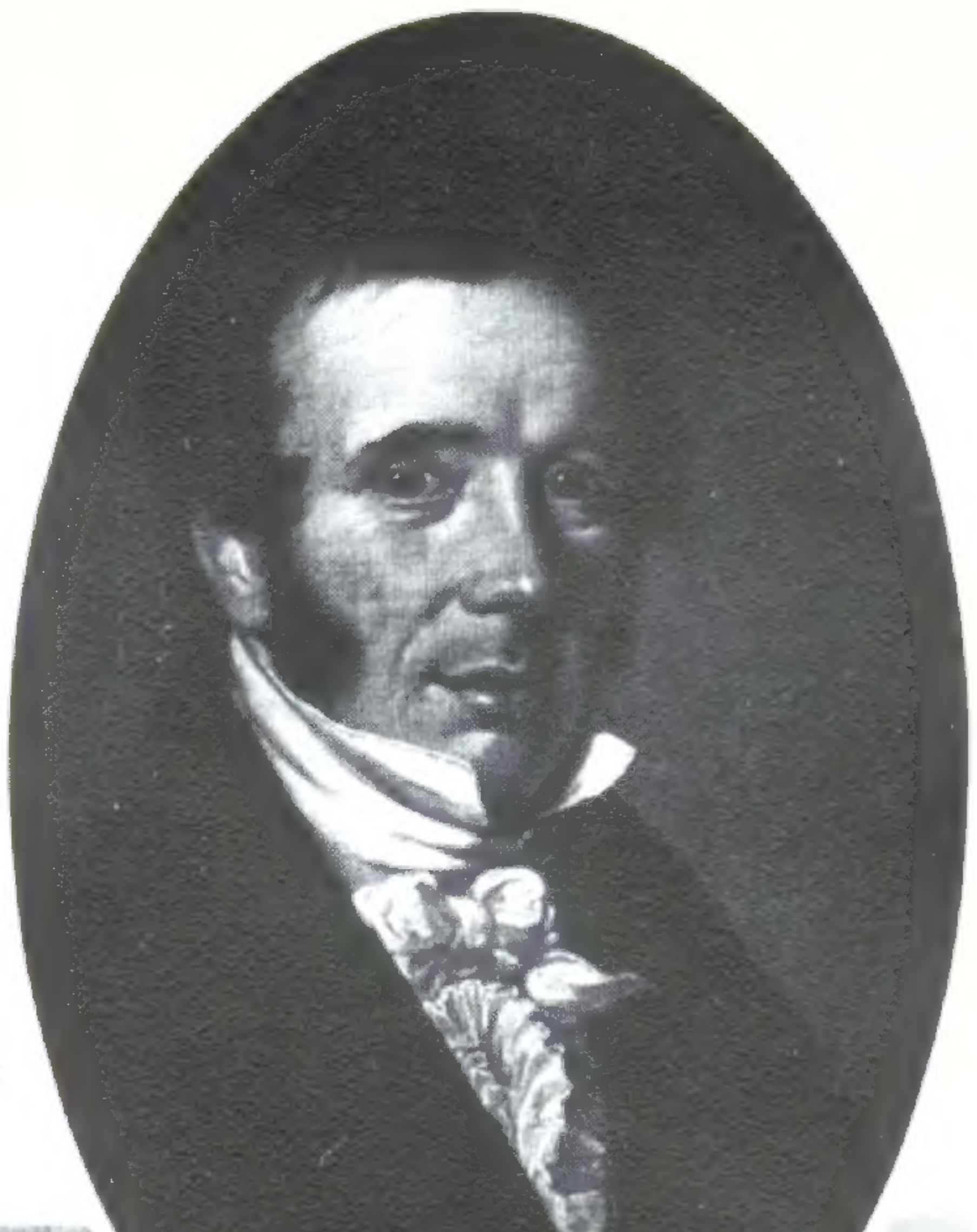
On his appointment as Director, Dr. Peter Raven and his staff set out to tell the Shaw story more widely and to call on wider segments of the community for support. Besides those on the Board of Trustees because of the position they held in the community, the Garden was able to enlist the support of distinguished members of the business community. Corporations, foundations and individuals responded to a challenge grant from the National Endowment for the Arts. The Garden challenged neighborhood groups, such as the Ladue Garden Club, "Hill 2000," and the Japanese-American League, to assist in specific areas. The number of "Members of the Garden" grew until it surpassed 15,000 by 1982, the largest membership of any botanical garden in the world.

The city saw the return for this generous support in enhanced programs in display, research, and in education. The last area included annual plant clinics in April and plant sales in fall, a spring garden workshop, an inflation gardening demonstration, a Summer nature study program, classes and workshops during the year for over sixty thousand students, a Science Educators' Symposium, a natural history series of lectures and films, a Living History program, and the "Week of the Young Child" that drew two thousand little ones. . . .

Perhaps in his fondest hopes, Henry Shaw saw much less than this when he rode out for the first time on horseback to the open prairie that he had purchased in 1840. But we can't be sure. His vision grew. Astute businessman that he was, he carefully considered the opinions of others. He would welcome future generations who built on his foundation. They have created a monument to his memory "far more enduring than bronze."

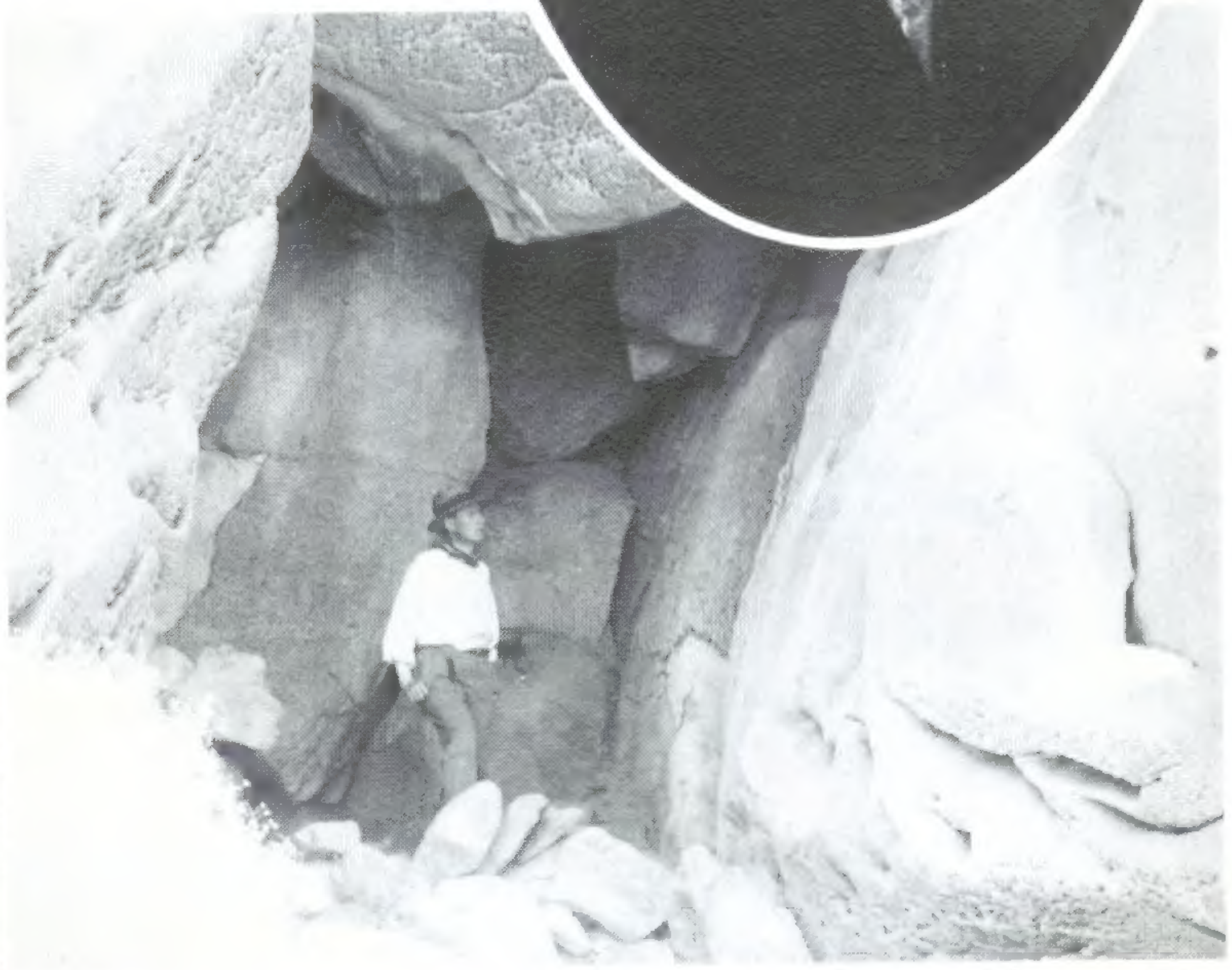
Father Faherty is a St. Louis historian and writer.

Directors of the Garden

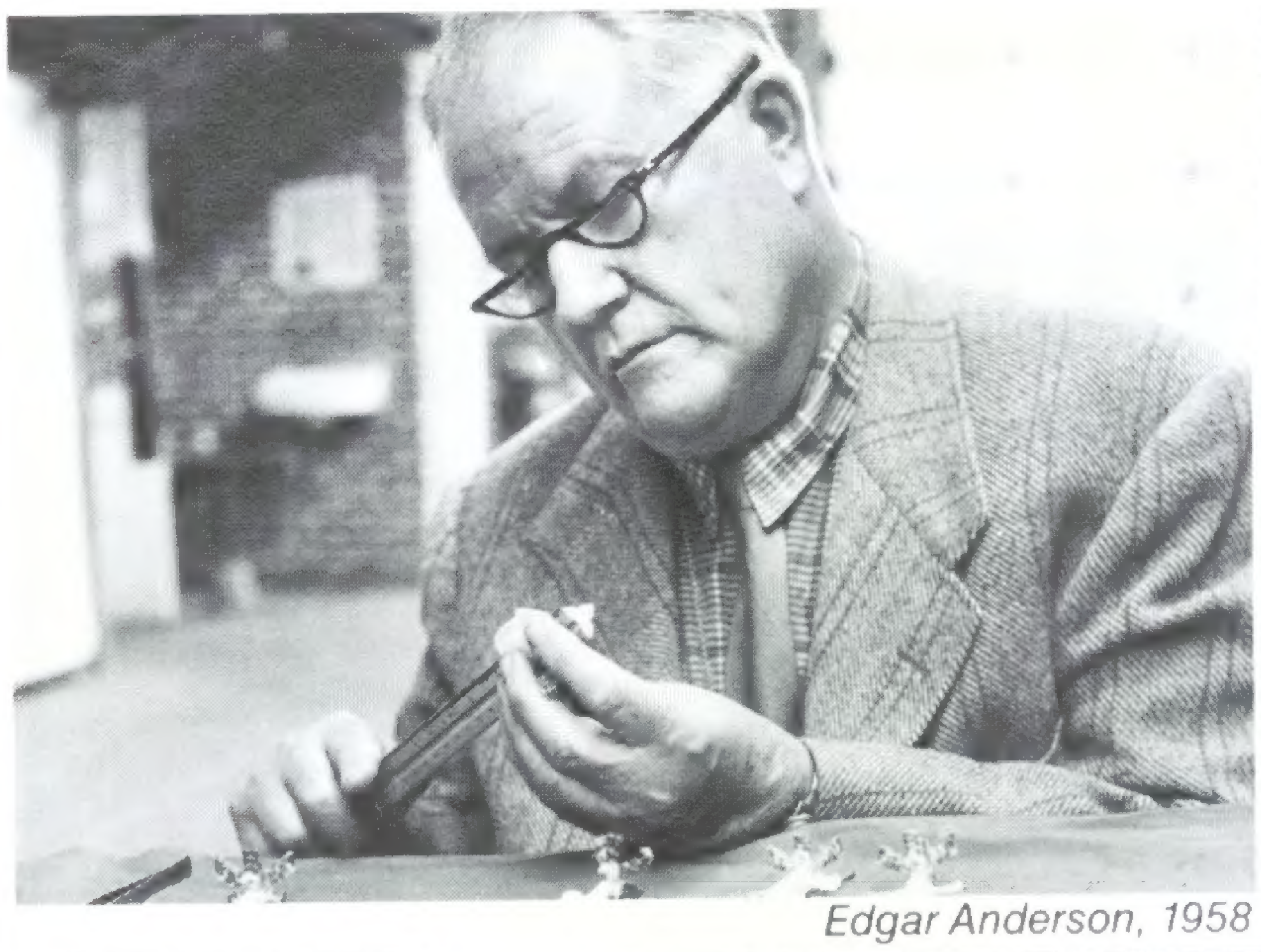


Henry Shaw

William Trelease, ca. 1900



George Moore, 1914



Edgar Anderson, 1958

Frits Went, ca. 1960

David Gates, ca. 1965

Peter Raven, present Director

A Chronology of the Missouri Botanical Garden

What follows is a brief chronology of the Garden, with events of St. Louis, U.S., and world history included as a frame of reference. (For a chronology of Garden Board Presidents, please see page 11.)

1800—Henry Shaw, founder of Garden, born in Sheffield England.

1809—George Engelmann born in Frankfort am Main, Germany. After coming to the U.S. in 1832, he became one of the premier American botanists. He was Shaw's scientific advisor and, as such, was responsible for starting the Garden's botany program.

1819—Henry Shaw arrives in St. Louis to begin a career as a merchant.

1840—Henry Shaw retires after realizing that he had earned "more money than any man in my circumstances ought to make in a single year."

1842—Henry Shaw purchases property that will later contain his Garden.

Shaw's townhouse in the 1850s.

1849—Henry Shaw's townhouse at 7th and Locust and his country home, Tower Grove House, constructed.

1851—Shaw visits England for the first world's fair and also tours Chatsworth, the hereditary estate of the Duke of Derbyshire, and conceives the idea of building a botanical garden.

1855—Henry Shaw commences construction of his Garden.

1857—George Engelmann, acting as Shaw's agent, purchases herbarium of late scientist Johann Bernhardi. These 62,000 specimens are beginning of Garden's herbarium.

George Engelmann 1809-1884.

1859—With the necessary approval of the Missouri State legislature on March 16, Henry Shaw opens his Garden to the public. First record of visitors is on Wednesday, June 15. First name in guest book is E. Leigh.

Victoria is Queen of England. There are 33 states of the Union. James Buchanan is President.

1860—Planting begun for an arboretum on Garden's west side. Several of the bald cypresses still stand.

1861—*American Civil War begins.*

James Gurney in his office, ca. 1910.

1866—James Gurney, first supervisor of gardening, comes to the Garden from the Royal Botanic (Kew) Gardens.

1867—Henry Shaw establishes Tower Grove Park.

1869—*Transcontinental railroad completed.*

1876—*Mark Twain publishes the American classic,* Tom Sawyer. *Twain was an early visitor to the Garden.*

1878—*First commercial telephone exchange opened.*

1879—*Edison invents the incandescent light.*

1880—*St. Louis Symphony established.*

1882—Linnean House—today oldest public greenhouse in the United States constructed.

1884—George Engelmann dies.

1885—Henry Shaw School of Botany established at Washington University.

1889—Henry Shaw dies, and leaves his Garden to the people of St. Louis. The Board of Trustees is formed, with Rufus Lackland being elected President. William Trelease is appointed Director.

1890—The first flower Sunday—an annual event at Christ Church Cathedral which continues even now—is held.

Shaw's townhouse in its present location.

1891—The first scientific papers are published by the Missouri Botanical Garden in its 1891 annual report.

Shaw's townhouse at 7th and Locust is dismantled and reassembled at the Garden according to his Will. It remains today as the north end of the Administration Building. Its restoration began in 1983.

1892—Collection of botanical works and herbals (more than 1,000 books) published before the time of Linnaeus donated to the Garden by Lewis Sturtevant. The Garden's collection of pre-Linnaean works—those published before the development of his modern method of scientific classification—is one of the largest in the U.S.

1893—The first Henry Shaw Medal is awarded—to J. Dorner for developing a new chrysanthemum hybrid.

Visitors with Victoria amazonica, *ca. 1906.*

1894—First *Victoria amazonica* blooms at the Garden.

1895—A. Isabelle Moulford is granted the first Ph.D. ever from Washington University; it is in botany, through the Henry Shaw School of Botany.

Cleveland Avenue Gatehouse, designed by George I. Barnett, is constructed.

1896—A devastating tornado destroys more than 450 trees inside the Garden.

1904—*The St. Louis World's Fair.*

The III Summer Olympics are held in St. Louis. The United States wins 78 Gold Medals, best at the games. Cuba and Germany are second, with 5 each.

1905—*Albert Einstein formulates theory of relativity.*

Herbarium reaches ½ million specimens.

1912—The Palm House is built. It was removed in 1959 and replaced by the Climatron.

George Moore becomes Director.

Director's Residence constructed.

1913—The Mediterranean and Desert Houses built.

A cactus display, ca. 1880.

1916—Floral Display House built. It burned in 1978.

Linnaean Rose Garden (now called Gladney Rose Garden) planted.

1917—*U.S. enters first World War.*

1921—The Flora Gate is enlarged and re-dedicated.

1927—*The first feature film with sound,* The Jazz Singer.

Babe Ruth hits 60 home runs.

Lindbergh makes the first trans-Atlantic solo flight.

1929—*The stock market crashes, marking the beginning of the Great Depression.*

1932—Herbarium now has 1 million specimens.

1936—*Margaret Mitchell's* Gone With The Wind *published.*

1945—*The Second World War ends.*

1948—*St. Louis born poet T. S. Eliot receives the Nobel Prize for Literature.*

1949—There are now 1½ million specimens in the herbarium.

1953—Tower Grove House, restored by the Historical Committee, is opened to the public.

1954—Edgar Anderson becomes Director.

The Garden holds its first annual Systematics Symposium. Today, it is one of the most important annual scientific symposia in the U.S.

1958—Frits Went becomes Director.

1959—*Alaska and Hawaii join the Union, becoming the 49th and 50th states.*

1959—Ben Hur *wins the Oscar as best motion picture.*

1960—The Climatron is dedicated.

1961—*Alan Shephard, Jr. becomes first American in space.*

1965—David Gates becomes Director.

The Gateway Arch, designed by Eero Saarinen, is completed.

1969—*Neil Armstrong is the first to walk on the moon.*

1970—The herbarium reaches 2 million specimens.

1971—Peter Raven becomes Director.

1972—John S. Lehmann Building—center of the Garden's research program—is dedicated.

1976—English Woodland Garden dedicated.

United States celebrates its bicentennial.

1977—The Anne L. Lehmann Rose Garden dedicated.

The Japanese Garden—Seiwa-En (the Garden of pure, clear harmony and peace)—designed by Koichi Kawana is dedicated.

Garden designated National Historic Landmark.

1978—With the accelerating growth of the botanical program, the herbarium adds ½ million specimens in just 8 years; there are now 2½ million specimens.

1982—The Ridgway Center—housing the Garden's education facilities, as well as features for visitors, is dedicated.

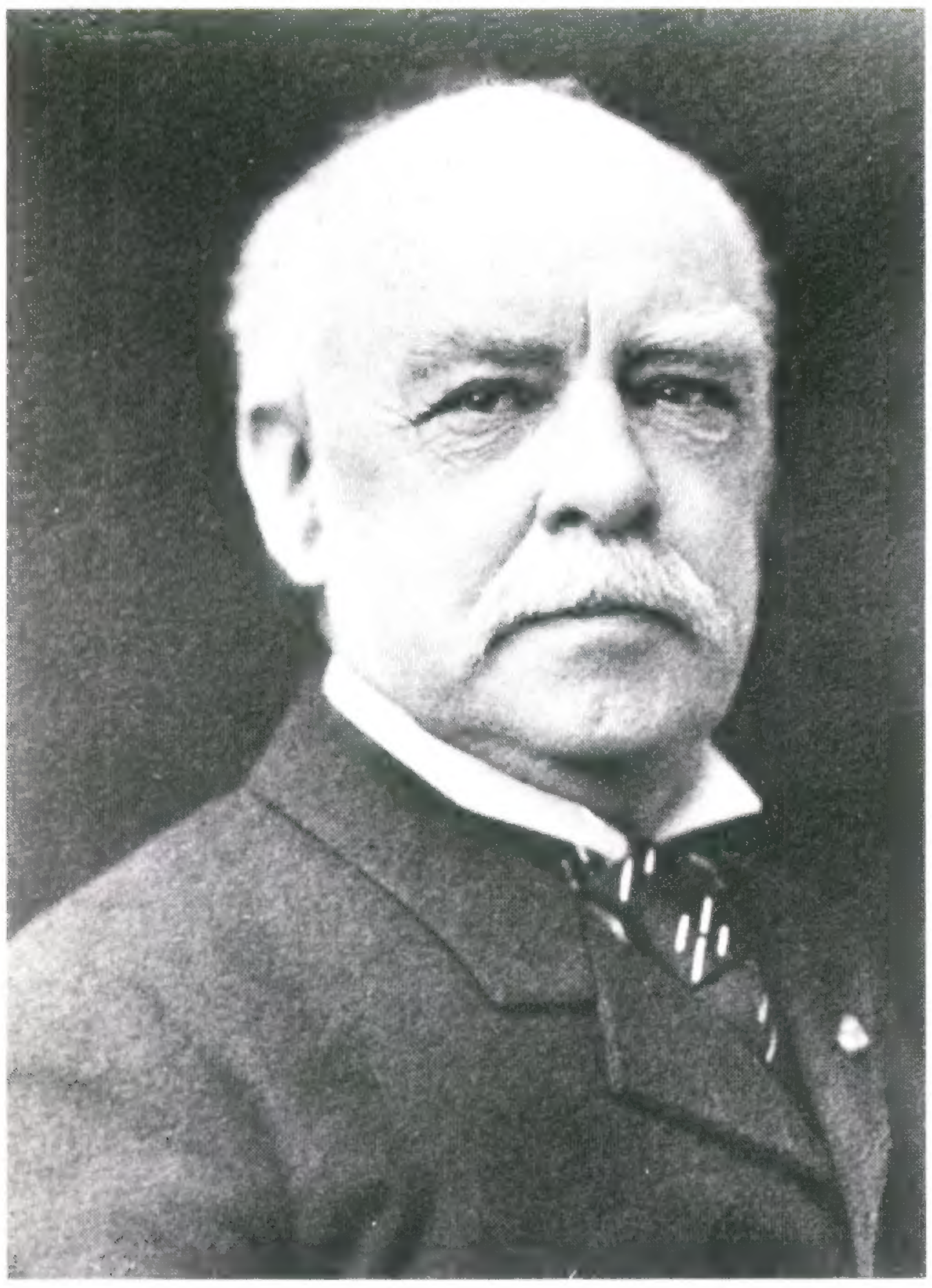
Spoehrer Plaza, Latzer Fountain, Cohen and Bakewell courts, Swift Family Garden, and Dry Stream Bed Garden opened.

1983—St. Louis City and County voters approve the creation of the botanical garden sub-district of the Zoo-Museum District, providing direct tax support for the Missouri Botanical Garden for the first time in its history.

The increasing activity of the Garden's research program results in another ½ million specimens added in under 5 years. The total of three million makes the Garden's herbarium one of the 12 largest in the world.

1984—The Garden celebrates its 125th anniversary.

The Garden and the Hitchcocks



Henry Hitchcock II

George C. Hitchcock

Henry Hitchcock

For three generations and 95 years, the Missouri Botanical Garden has been served by members of a remarkable St. Louis Family: the Hitchcocks. The connection began in 1889, when St. Louis journalist-attorney Henry Hitchcock was appointed to the Board of Trustees of the then-thirty year old botanical garden; he was one of 12 men appointed trustees through the will of the Garden's founder, Henry Shaw. He served until his death in March, 1902. The following year, his son, George C. Hitchcock, was elected to the Board. He served until retiring in 1947; he was succeeded on the Board by his son, Henry Hitchcock, who remained an active trustee until 1974. Today he serves as a Trustee Emertius. It is interesting to note, and also serves as an indication of this family's commitment to the Missouri Botanical Garden, that no single Trustee served on the Board for longer than did George C. Hitchcock (44 years) and no one except George C. Hitchcock served longer than did his son, Henry Hitchcock (28 years as an active member and another 9 as an Emeritus Trustee for a total 37 years). All three of the Hitchcocks also served as officers of the Board: the first Henry Hitchcock was Vice-President; his son and grandson both served as President.

Descended from Revolutionary War hero, Ethan Allen, the Hitchcock family has been in St. Louis since 1861 (the first year of the Civil War) when Henry Hitchcock arrived here to set-up a law practice. He became an assistant editor of the *St. Louis Intelligence*, a Whig newspaper. But his journalism career was short-lived, as he left the paper after only a year to devote himself to his law career. It was an extremely active career: he was the man chiefly responsible for the establishment of the Washington University school of law and served as its first dean; he was also one of the fifteen founders of the American Bar Association. He became such a nationally known figure, that Winston Churchill, one of America's most popular novelists at the turn of the century, based a leading character in one of his best selling novels on Hitchcock. Ironically, when the novel was adapted as a drama, Hitchcock died on the evening of the play's St. Louis premiere.

Several months after his death, his son George C. Hitchcock, also an attorney, was elected to the Garden's Board of Trustees. He served as President of that body from 1928-1947—longer than any other Board President. During his presidency—despite the fact that it occurred during a time of extraordinary national turmoil because of the Depression and the Second World War—the Garden began several programs which today are considered world class. First, the Gaden began providing education for the general public in 1929; until then, the Garden had only a small program designed for the education of professional horticulturists. Today, more than 60,000 students participate in programs at the Garden. Second, the Garden began its commitment to the study of tropical botany during his tenure. Although Garden botanists had made explorations of tropical areas before his tenure, the research program was considerably expanded and the Garden's first important botanical project, the Flora of Panama (which required nearly forty years to complete) was begun. In 1939, the Garden's Friends Organizations was formed; a year later, the Arboretum (now called Shaw Arboretum) was opened to the public.

When he retired from the Board in 1947, his son, Henry Hitchcock, was elected to fill his vacancy. Like his father and his grandfather, Henry Hitchcock was a profound influence on the shaping of the Garden. Although he served as Board President for only four years, they were four significant years. The Garden became a member of the St. Louis Arts and Education Council in 1963, the first year of his presidency. In the next year, the Friends Organization was considerably expanded. The Garden's Rare Book Restoration Department was organized during his presidency; today it is the only institutional book restoration department in Missouri and an important resource for many libraries in addition to the Garden's library. Also during his term, a Master Plan calling for the construction of a new research facility (now the John S. Lehmann Building) was devised to allow sufficient room for the Garden's internationally important research program.

In 1967, during the final year of his presidency, the Garden was able to conclude a fiscal year with a balanced budget for the first time in its then 108 year history.

The Board of Trustees: 95 Years of Continuing Service

When Henry Shaw's will was probated in 1889, the first order of business specified in it was the establishment of a governing body to oversee and continue Shaw's efforts to create an outstanding botanical garden. Since that time, the Garden's Board of Trustees has conscientiously followed the dictates of Mr. Shaw's will, and has devoted countless years of effort to the maintenance and improvement of the Garden in all its aspects. It is because of the dedication of the Trustees to the specifications of Shaw's will that the Garden has been able to develop such outstanding features as the Climatron, the John S. Lehmann Building, the Arboretum and Nature Reserve at Gray Summit, the Japanese Garden, and the Ridgway Center. The consistent high quality of the Garden's indoor and outdoor plant displays, scientific research programs, and diverse educational activities can be attributed in large measure to the tireless dedication of the Board of Trustees.

Over the years, the names on the list of Board members read as a roster of some of the most generous benefactors of the Garden—John S. Lehmann, whose name is memorialized both in the new rose garden and in the herbarium and library building; A. Wessel Shapleigh, whose family has donated the memorial fountain at the northest end of the South Rose Garden; Sydney M. Shoenberg, whose family is commemorated in the fountain near the Lehman Building as well as in the Auditorium; William R. Orthwein, for whose family the floral display hall was recently named; and countless others.

In 1983, largely through the efforts of the Trustees, the Garden was successful in its campaign to create the botanical garden subdistrict of the Zoo-Museum District, providing—for the first time in the Garden's history—a basis of direct tax support of the Garden.

Nor would any discussion of the Board of Trustees be complete without mentioning the role of the various Presidents of the St. Louis School Board, the Chancellors of Washington University, the Mayors of the City of St. Louis, the Presidents of the Academy of Science of St. Louis, the Bishops of the Episcopal Diocese of Missouri, and the President of St. Louis University, all of whom serve, as specified in Henry Shaw's will, as ex-officio members of the Board.

It is with a profound sense of gratitude that we take this opportunity to salute the dedicated individuals who have served, and are now serving in the role of policy-makers and overseers of one of the nation's great scientific institutions.

Missouri Botanical Garden Board of Trustees Elected Members

Baer, Howard F.	1960-1980 (Honorary 1980-)
Barksdale, Clarence	1964-
Bascom, Joseph H.	1971-
Biggs, John H.	1983-
Blumeyer, Arthur A.	1928-1930
*Branch, Joseph W.	1889-1903
Bush, William H. T.	1983 -
Carter, L. Ray	1928-1952
Catlin, Daniel K.	1926-1964
*Collier, M. Dwight	1889
Danforth, Donald	1982
Davis, Samuel C.	1919-1940
Davis, Sam'l C.	1960-1977 (Honorary 1977)
Drake, George S.	1890-1895
Eliot, Edward C.	1903-1928
Engelmann, Dr. George J.	1889-1895
Faust, Leicester Busch	1954-1973 (Honorary 1973-79)
French, Dudley	1937-1960
Goodson, Richard A.	1965-1971
Hermann, Robert R.	1966-
Hitchcock, George C.	1903-1947
*Hitchcock, Henry	1889-1902
Hitchcock, Henry	1947-1974 (Honorary 1974)
Holland, Leonard J.	1965-1971
*Johnson, Dr. John B.	1889-1903
Kaime, David F.	1889-1910
Kresko, Robert E.	1981-
*Lackland, Rufus J.	1889-1909
Lehmann, John S	1941-1965 (Honorary 1965-67)
Lockwood, Richard J.	1941-1959
Loeb, Stephen H.	1983-
McDonnell, James S. III	1983-
*Madill, Judge George A.	1889-1901
Maffitt, P. Chouteau	1914-1919
Maffitt, Thomas S.	1922-1940
Mallinckrodt, Edward	1915-1928
Maritz, William E.	1980-
Matthews, Leonard	1895-1923
Meyer, A.C.F.	1924-1928
Miller, Charles F.	1889-1891
Moore, George T.	1929-1954
Norvell, Saunders	1910-1915
Oberheide, Mrs. Fred A.	1984-
Orthwein, William R.	1975-
Otto, Robert W.	1958-1963
Perkins, Albert T.	1926-1936
Pettus, Eugene	1932-1957
*Pettus, William H. H.	1889-1922
Pflager, Henry B.	1955-1967
Piper, Mrs. Vernon W.	1981-
Primm, A. Timon III	1964-1980
Ross, Mrs. Lucianna Gladney	1978-
Sachs, Louis S.	1980-
Scanlan, Philip C.	1911-1931
Schlafly, Daniel	1972-
Schneiderman, Howard A.	1981-
Shapleigh, A. Wessel	1936-1957
Shapleigh, Warren McKinney	1958-
Shepley, Ethan A. H.	1930-1954
Shepley, John F.	1901-1929
Shoenberg, Sydney M., Jr.	1972-
Smith, Dr. David S. H	1902-1925
Smith, Robert Brookings	1952-1963 (Honorary 1981-)
Smith, Tom K., Jr.	1963-64, 1967-
Spink, C. C. Johnson	1974-
*Treat, Judge Samuel	1889-1890
Wallace, John K. Jr.	1983-
West, Robert C.	1981
Whitaker, Edwards	1902-1926
Whitehead, C. Powell	1965-1975 (Advisory 1975)
Wightman, O. Sage III	1983
Wuertenbaecher, Harry E., Jr.	1963-
*Yeatman, James E.	1889-1901
Zeibig, Fred G.	1928-1936

**Members of original Board of Trustees, 1889*

Presidents of the Board of Trustees

Lackland, Rufus J.	1889-1909
Kaime, David F.	1910
Whitaker, Edwards	1910-1926
Eliot, Edward C.	1926-1928
Hitchcock, George C.	1928-1947
Lockwood, Richard J.	1947-1953
Lehmann, John S.	1953-1958
Smith, Robert Brookings	1958-1962
Hitchcock, Henry	1962-1967
Wuertenbaecher, Harry E., Jr.	1967-1970
Whitehead, C. Powell	1970-1973
Bascom, Joseph H.	1973-1975
Smith, Tom K., Jr.	1975-1981
Spink, C. C. Johnson	1981-1984
Biggs, John H.	1984-

1984 Events—Celebrating 125 Years

Ascent of Man
Shoenberg Auditorium
Jan. 3, 10, 17, 24, 31, Feb. 7, 14, 21, 28, March 6, 13, 20, 27
Jacob Bronowski's acclaimed 13-part film series on the development of man. Shown at 10:30 a.m. and 8:00 p.m. Free admission.

SCI-FEST
Ridgway Center
Jan. 11-15
Explore the imagination and technology rooted in the vast spectrum of science. Watch science fiction feature films, *Dr. Who* and *Star Trek* videos or stroll through the wonders of the Galaxy Bazaar.

Winter Photography Contest
Jan. 11-Feb. 20
Amateur photographers take their best shots in this annual Garden competition. Call 577-5125 for entry blanks and information.

Canterbury Days
Ridgway Center
Jan. 21 & 22
Join the Lords and Ladies of yesterday for an exciting look at Medieval Times. There will be dancing, fighting, crafts and costumes.

Robert M. Lindholm Exhibit
Monsanto Hall
Jan. 21-Feb. 5
A photographic exhibit inspired by famed environmentalist Sigurd F. Olson.

Orchid Preview—*Members only*
Ridgway Center
Jan. 27
A special evening exclusively for members. Join us for a cocktail and a preview of the beautiful orchid show. Table service will be available in Gardenview Restaurant.

Orchid Show
Orthwein Floral Hall
Jan. 28-Feb. 26
A respite from the winter in the first major floral show of the new year. Magnificent orchids displayed for your pleasure.

Children's Films
Shoenberg Auditorium
Jan. 28, Feb. 4, 11, 18, 25, March 10, 17
High adventure is the focus for this Saturday Children's Film Series. All films begin at 12 noon and are just $1.50 for non-members and $1 for members.

Quilt Exhibit
Monsanto Hall
Feb. 11-March 4
Take a close-up view of the particularly womanly art of quilt-making.

Valentine Special
Ridgway Center
Feb. 14
Plan to spend this special evening with your special person at the Garden. A romantic candlelight dinner is planned.

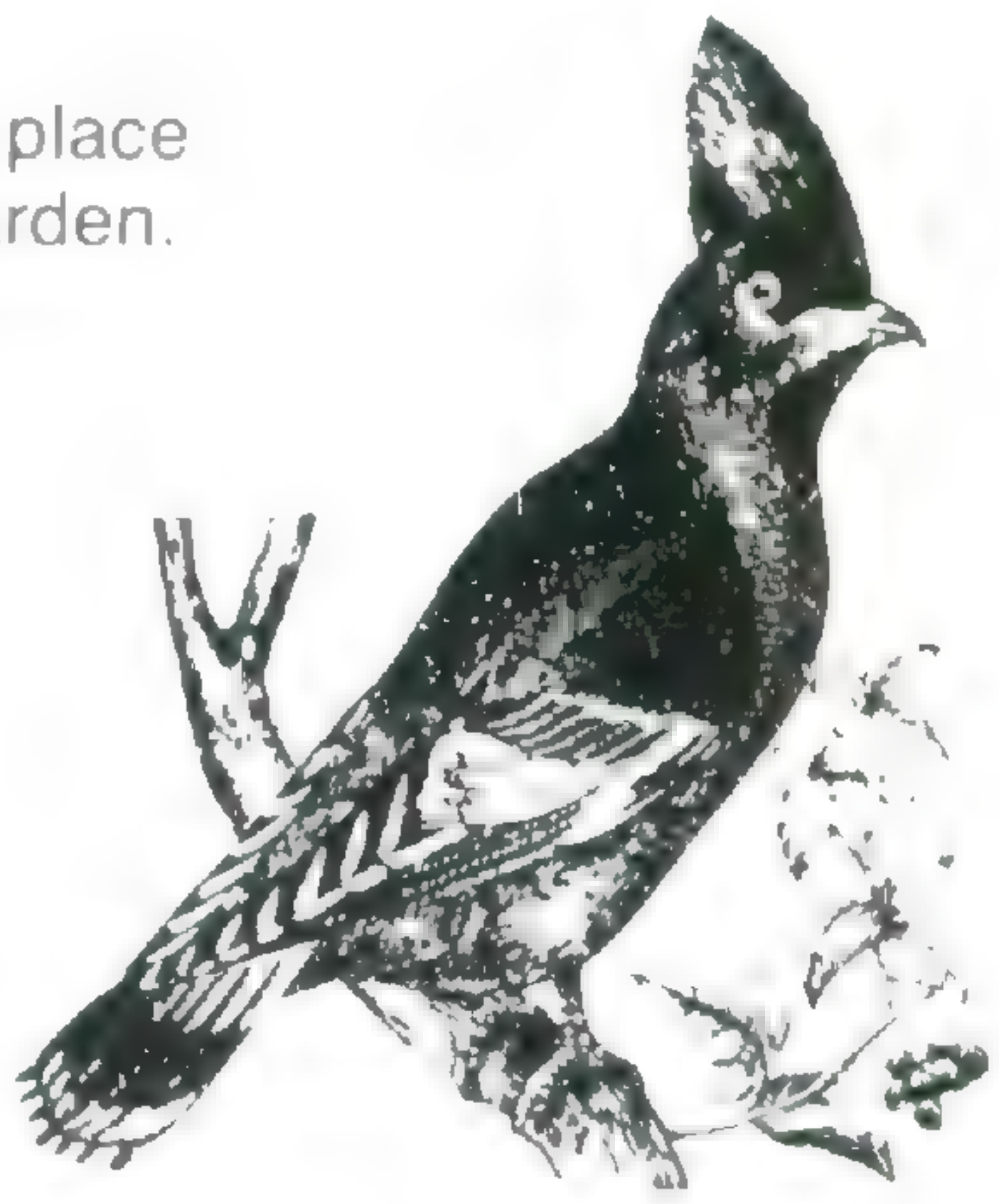
Drake University Concert Band
Shoenberg Auditorium
February 23
Drake University Concert Band and Symphonic Wind Ensemble will perform as part of their 48th annual concert tour.

Spring Lecture Series
Shoenberg Auditorium
March 7, 14, 21, 28
A look back over 125 years at St. Louis and the Garden is the focus of this series.

Spring Preview—*Members only*
Ridgway Center
March 9
Garden members are invited to the very first peek at the Spring Flower Show.

Spring Flower Show
Orthwein Floral Hall
March 10-April 8
Spring comes early at the Missouri Botanical Garden. Spring flowers are delightfully displayed in this major floral show.

Spring Celebration
Ridgway Center
March 20
Today is the first day of Spring. What better place to celebrate than the Missouri Botanical Garden.



Spring Gardening Fair
Ridgway Center
March 24
Post-Dispatch writers and Garden horticulturists share their knowledge on how to develop your home garden.

Peterson Lecture
Shoenberg Auditorium
March 25
Famed naturalist Roger Tory Peterson will lecture today in Shoenberg Auditorium.

Peterson Exhibit
Monsanto Hall
March 25-April 22
The delicate artistry of Roger Tory Peterson is on display.

Week of the Young Child
Ridgway Center
April 1
Closing ceremonies and activities for the Week of The Young Child.

Lecture Series
Shoenberg Auditorium
April 4-11
Topics and speakers to be announced.

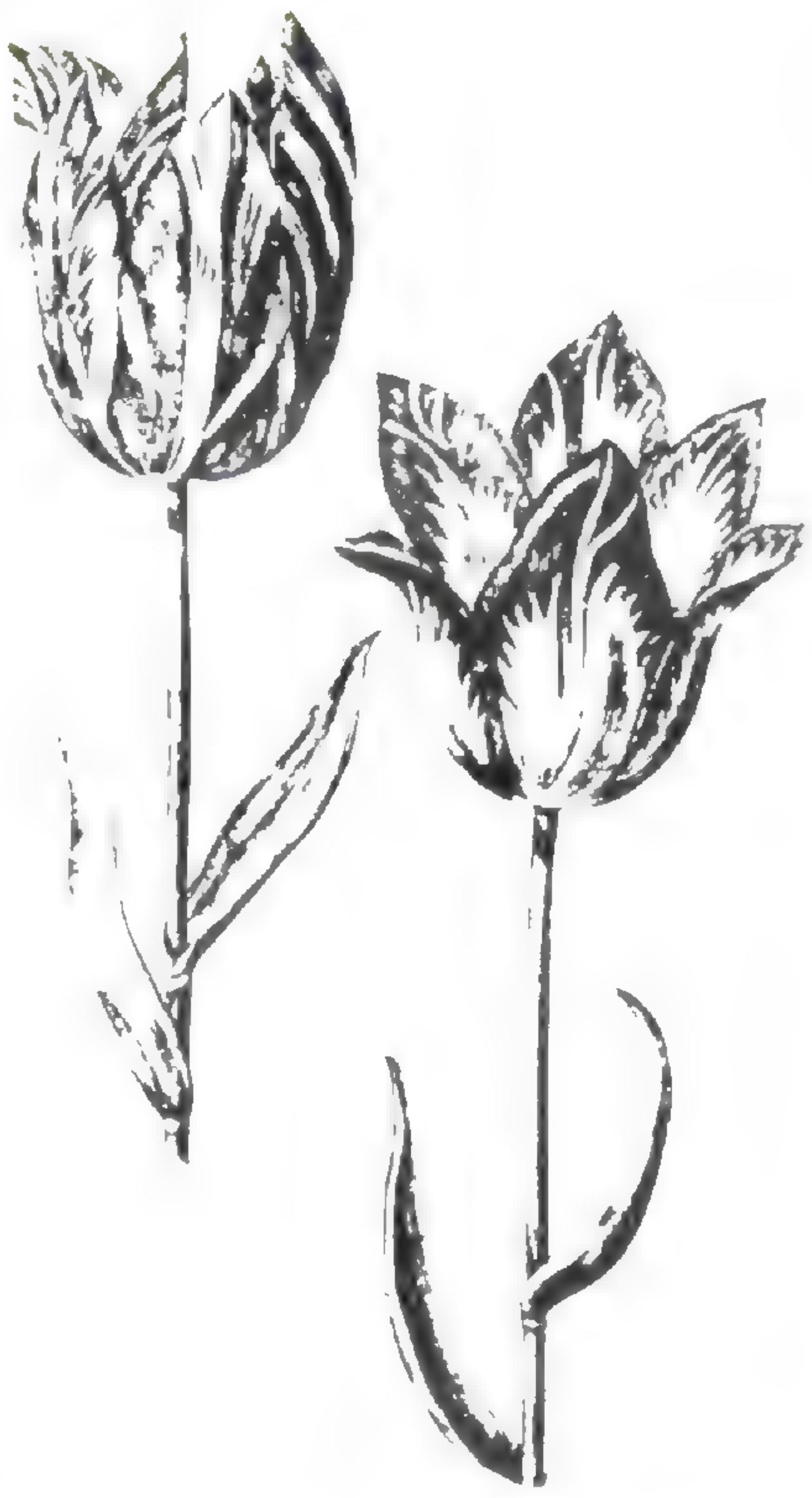
Arbor Day
Grounds
April 6
Arbor Day will be celebrated with complimentary trees and a ceremonial tree planting with Mary Institute.

Historical Benefit
Tower Grove House
April 7
An elegant dinner with proceeds going to maintain historic Tower Grove House.

Bible Plants
Mediterranean House
April 7-29
A special display of plants dating from Biblical times.

1984 Events—Celebrating 125 Years

Spring Plant Sale—*Members only*
Orthwein Floral Hall
April 12 & 13
For two days only a hefty 20% discount on spring plants for members only.



Jackson Lecture
Shoenberg Auditorium
April 14
Naturalist James P. Jackson will present a slide lecture on the Meramec and will autograph his new book.

Spring Plant Sale
Orthwein Floral Hall
April 14 & 15
Open to the public for a reduced price on all the beautiful plants you'll need for Spring. Bring your friends.

Easter Egg Hunt
Grounds
April 21
Bring your children to the Garden, where the Easter Bunny has secreted hundreds of eggs.

Carillon Concert & Sunday Brunch
Grounds
April 22
The melodic sounds of Carillon bells will float over the Garden grounds today.

Banks Exhibit
Monsanto Hall
April 28-May 28
To announce the acquisition of a set of the Banks *Florilegium*, an exhibit of "A Flowering of Science: Plants From Captain Cook's First Voyage" will be displayed.

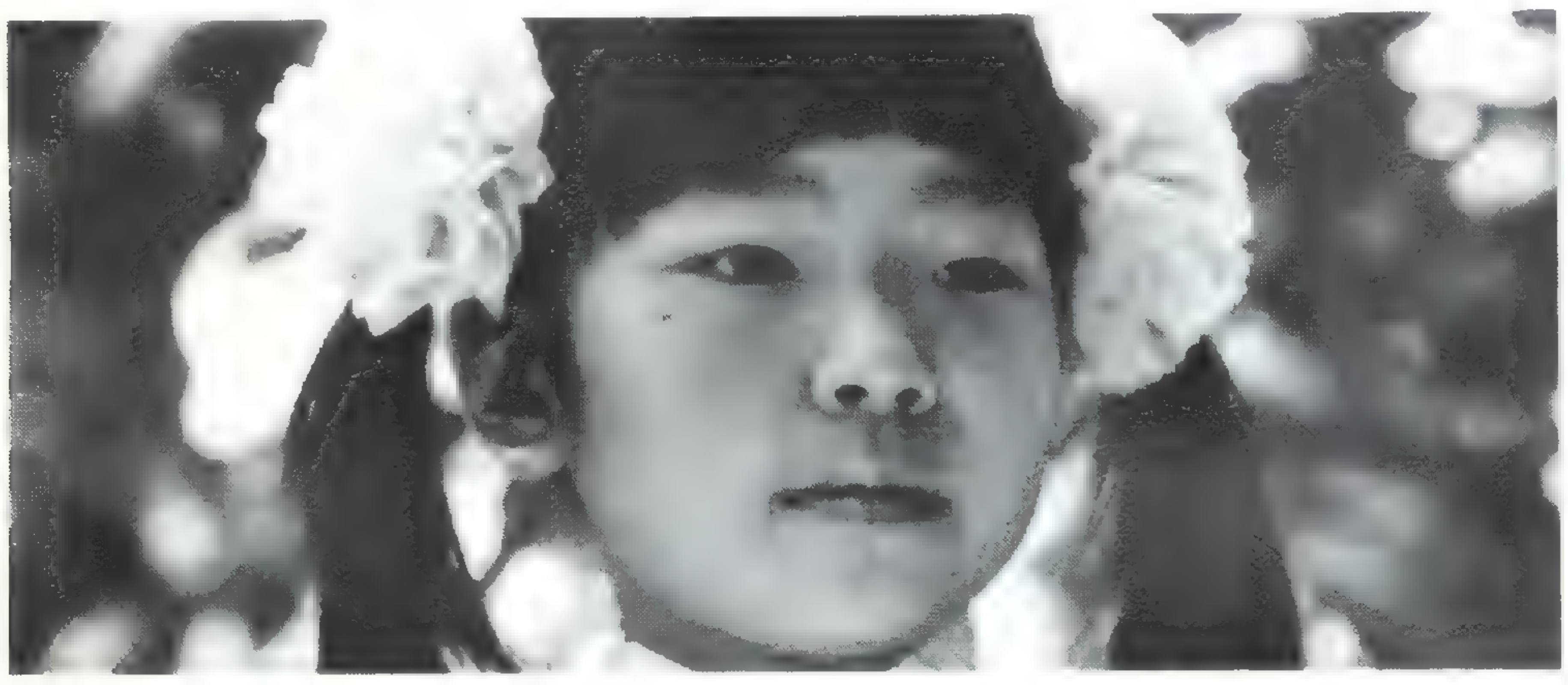
Iris Society Show
Orthwein Floral Hall
April 28
If the Iris is one of your favorites, don't miss this show by the Iris Society.

Morning Birdwalk & Breakfast
Gardenview Restaurant & Grounds
May 2
Get up with the birds for breakfast at the Garden, a lecture and birdwalk during the Spring migration.

Music Fest
Ridgway Center
May 2, 9, 16, 23, 30
Fill your Wednesdays with music and the entire month of May with varying concerts at the Garden.

Herb Sale—*Members only*
Orthwein Floral Hall
May 3 & 4
Member's receive extra special discounts on herb purchases.

Herb Sale
Orthwein Floral Hall
May 5 & 6
The herb sale opens to the public.



Children's Day (Japanese)
Ridgway Center & Grounds
May 5
A special preview of the culture of Japan featuring special activities for children.

Carnivorous Plants
Climatron
May 5-27
Always fascinating Carnivorous Plants are on display in the Climatron

Nature Films
Shoenberg Auditorium
May 8, 15, 22, 29, June 5, 12
Nature films to be announced at a later date.

Valder Lecture
Shoenberg Auditorium
May 11
Dr. Peter Valder makes a special visit to the Garden to talk about the flora of Australia.

Conservation Forum
Ridgway Center
May 11
Continental breakfast with Dr. James Henry Wilson, who will discuss the endangered plants and animals of Missouri.

African Violet Show
Orthwein Floral Hall
May 12 & 13
Well cultivated African Violets will be displayed and judged.

Mother's Day
Gardenview Restaurant
May 13
A special brunch for Mother's Day in the Gardenview Restaurant.

Horticulture Society
Orthwein Floral Hall
May 19 & 20
The best of a variety of plants will be handsomely displayed.

Diment Lecture
Shoenberg Auditorium
May 20
Judith Diment, Botany Librarian with the British Museum (Natural History) will speak on "A Flowering of Science: Plants from Captain Cook's First Voyage 1768-1771."

Rose Society Show
Orthwein Floral Hall
May 26 & 27
The Rose Society Show is always a favorite. Plants will be shown and judged.

Picnic Day
Grounds
May 28
Picnic day at the Garden will feature a special barbeque by reservation only.

Scented Garden Celebration
Grounds
May 28
A very special day when the Scented Garden will show off its new braille labels and wine and music will be on tap. In addition, signed tours of the Garden will be available for the hearing impaired.

Botany Field Day
Ridgway Center, Grounds, Herbarium
June 2
This day is especially planned with the whole family in mind. Exhibits, activities, and tours will introduce you to the fascinating world of Botany.

Iris Society Show
June 2 & 3
If by misfortune you missed Irises earlier, there is one more chance to see this majestic flower displayed and judged.

1984 Events—Celebrating 125 Years

Purple Martin Day
Grounds
June 7
Help us welcome home the Purple Martins with a talk and wine and cheese.

Rose Evening—*Members only*
Lehmann & Gladney Rose Gardens
June 8
A special evening for members only to stroll and enjoy the roses.

Henry Shaw Exhibit
Flora Gate
June 8-24
An exhibit from Chatsworth, the English garden that inspired Henry Shaw early in his life, resulting eventually in the Missouri Botanical Garden.

Plants of Japan & Haiku
Climatron
June 16-24
A special showing of Japanese plants in the Climatron.

Japanese Festival
Grounds
June 16-24
Experience a touch of Japanese art, dance, theater, cuisine, symbolism, fashion and many other facets of the culture during a nine-day celebration. The Japanese Festival is one of the top Midwest events.

Land of the Rising Sun
Grounds
June 21
A special sunrise walk through the Japanese Garden will provide an excellent opportunity for shutter buffs to photograph the many highlights.

Charles M. Russell Preview
Monsanto Hall
June 28
A special preview of sculpture by Charles M. Russell.

Charles M. Russell Bronze Exhibit
Monsanto Hall
June 29-Aug. 5
An extensive exhibit of famous pieces by this renowned artist from a private collection will be displayed.

Day Lily Show
Orthwein Floral Hall
July 1
Victorian lilies will grace the Climatron pools with a colorful burst of Summer shades.

Picnic Day
Grounds
July 4
You are invited to bring baskets and blankets to enjoy a picnic on the Garden grounds. The Gardenview Restaurant also will offer a special picnic menu.

Curiosities of the Plant World
Climatron
July 7-29
A diversity of rare plants will be exhibited in the Climatron.

Victorian Fair
Grounds
July 18-24
A special celebration to tribute the Garden's 125th and the Victorian era.

Ice Cream Social
Grounds
July 21 & 22
Enjoy an old-fashioned day at the Garden with home-made ice cream, banjo music and a stroll on the grounds.

Henry Shaw Birthday Party
Grounds
July 24
A birthday card contest, children's workshops, entertainment and refreshments will all be part of the birthday party.

Summer Children's Films
Shoenberg Auditorium
July 29, 30, 31, Aug. 1, 2, 3, 4
Children's favorites will be shown and the Gardenview Restaurant will serve a children's lunch.

Urban Fair
Orthwein Floral Hall
Aug. 4 & 5
Gardeners from all over the metropolitan area exhibit their finest fruits and vegetables for judging. A country fair in the city.

Haas Preview
Ridgway Center
August 8
Have a cocktail and enjoy a special Members' preview of a photography exhibit by the internationally respected nature photographer and author.

Ernst Haas Exhibit
Monsanto Hall
August 9-Sept. 3
A photography exhibit by the internationally respected nature photographer and author.

Parenting Fair
Ridgway Center
Aug. 11 & 12
Seminars, lectures, films and exhibits with information for expectant and other parents.

Cactus Society Show
Orthwein Floral Hall
Aug. 25-Sept. 3
The society displays cactus in various sets and all are judged

Bromeliads
Climatron
Sept. 1-30
A display of tropical plants.

Picnic Day
Grounds
Sept. 3
You are invited to bring baskets and blankets to enjoy a picnic on the Garden grounds. The Gardenview Restaurant also will offer a special picnic menu.

"Connections"
Shoenberg Auditorium
Sept. 4, 11, 18, 25, Oct. 2, 9, 16, 23, 30, Nov. 6
An evolutionary film series depicting the social growth of man in relation to science.

Theatre Project Company Production
Grounds
Sept. 7, 8, 9, 13, 14, 15, 16
Play to be announced.

Rose Weekend
Both rose gardens
Sept. 8 & 9
A romantic encounter with wine and roses.

1984 Events—Celebrating 125 Years

Elaine Blatt Exhibit
Monsanto Hall
Sept. 8-Oct. 8
An artistic study of water lilies captured through the lens of Elaine Blatt.

Fall Plant Sale—*Members only*
Orthwein Floral Hall
Sept. 13 & 14
The Garden Gate Shop will offer plants, books, tools and much more at a greatly reduced price.

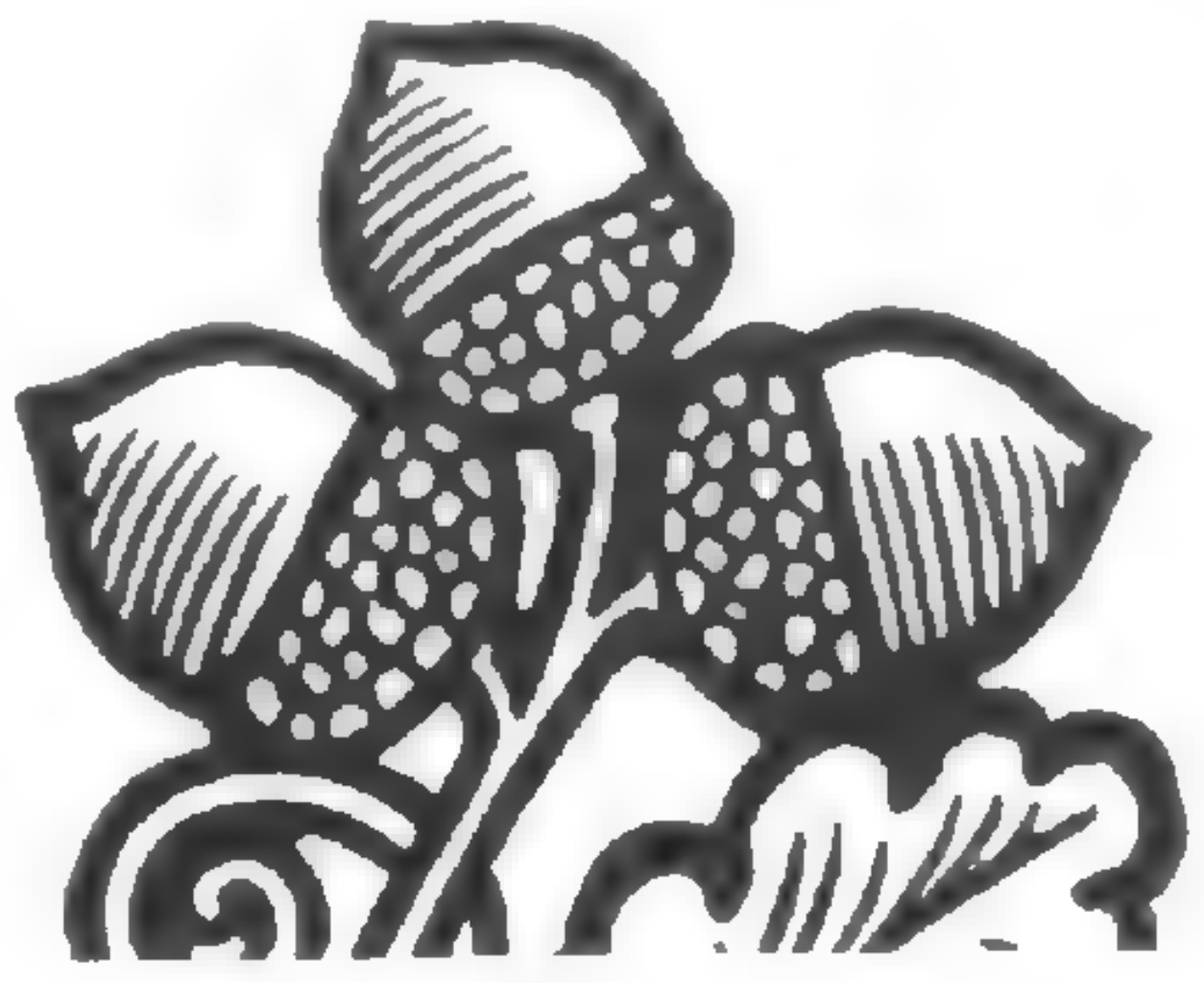
Fall Plant Sale
Orthwein Floral Hall
Sept 15 & 16
The Garden Gate Shop will offer plants, books, tools and much more at a greatly reduced price.

Men's Garden Club Show
Orthwein Floral Hall
Sept. 22 & 23
Displays of various plants will be judged.

Dahlia Society Shows
Orthwein Floral Hall
Sept. 29 & 30
A variety of dahlias will be exhibited and information on how to cultivate the varieties will be available.

Fall Lecture Series
Shoenberg Auditorium
Oct. 3, 10, 17, 24, 31
Lectures to be announced.

Chinese Festival
Grounds
Oct. 6 & 7
Experience the food and culture of traditional China.



Gesneriad Society Show
Orthwein Floral Hall
Oct. 6 & 7
The finest plants will be displayed and judged.

Staghorn Fern Display
Climatron
Oct. 6-28
The exotic staghorn fern will be on display in the Climatron.

***Succot*/Harvest Festival**
Grounds
Oct. 11-17
Succot, the Jewish Harvest Festival, will be celebrated with special foods and a *Succot* constructed on the grounds.

Missouri Concert Ballet
Shoenberg Auditorium
Oct. 13
Ballet to be announced.

Fall Craft Fair
Ridgway Center
Oct. 13 & 14
The finest midwestern crafts will be displayed and offered for sale.

Engelmann Exhibit
Beaumont Room
Oct. 13-28
An exhibit of Dr. George Engelmann memorabilia will be on display in the Beaumont Room. Engelmann was scientific advisor to Henry Shaw.

Preview for Ellenshaw
Ridgway Center
Oct. 18
A special preview of paintings by Peter Ellenshaw, highlighted by an auction of a painting.

Ellenshaw Exhibit
Monsanto Hall
Oct. 19-Nov. 18
The seascapes of Peter Ellenshaw will be on display

Breakfast with the Birds
Restaurant and Grounds
Oct. 20
Early risers will have an opportunity for breakfast at the Garden and a special birdwalk and lecture.

Halloween Thrillers
Shoenberg Auditorium
Oct. 26 & 27
Fright films are the special treat for Halloween.

Children's Fall Films
Shoenberg Auditorium
Oct. 27, Nov. 3, 10, 17
Children's films to be announced.

Fall Preview—*Members only*
Ridgway Center
Nov. 2
Members preview the festive colors of the Fall Flower Show.

Fall Flower Show
Orthwein Floral Hall
Nov. 3-25
The Fall Flower Show officially opens.

Preview Sale, Gift Shop—Members only
Gift Shop
Nov. 7 & 8
It's never too early to start Christmas shopping. Members only receive a special price in the Gift Shop.

Lecture Series
Shoenberg Auditorium
Nov. 7-17
Topics to be announced.

Holiday Exhibit
Monsanto Hall
Nov. 21-Dec. 31
A special Victorian holiday exhibit.

Victorian Cards
Ridgway Center
Nov. 21-Dec. 31
Victorian cards will be on display.

Holiday Plant Sale—*Members only*
Plant Shop
Dec. 7-9
Holiday Plants are on sale to members only.

Holiday Preview
Ridgway Center
Dec. 7
A special preview of the holiday show for members.

Holiday Plant Show
Orthwein Floral Hall
Dec. 8-Jan. 1
A beautiful holiday plant exhibit to heighten the anticipation of the holidays.

Family Day—*Members only*
Ridgway Center
Dec. 8
A special family day for members, with activities to be announced.

Welcome Winter
Spoehrer Plaza—Gardenview Restaurant
Dec. 21
Welcome the first day of winter with hot chocolate and stargazing.

FOR *Younger* MEMBERS

Where Is Everybody?

Have you ever curled up in bed to sleep an extra hour or two on a cold winter morning? Can you imagine what it would be like to sleep for a whole day, a week, or even a month? Some animals actually sleep through the entire winter! When this happens, we say that the animal is *hibernating.*

Hibernation is a kind of winter sleep. The hibernating animal rests and eats little or nothing at all. In winter, the temperature is very cold. If an animal stays active all winter long, it will need a great deal of food to keep its body temperature warm. But food is harder for animals to find in the winter. By hibernating, an animal solves two problems at once: it stays warm, and it doesn't need to look for food each day.

But how can an animal survive for weeks with no food? Most hibernating animals eat large amounts of food in the fall months. They store this food in the form of body fat. During hibernation, these animals live on the food stored in their bodies. Other animals gather their food supply and store it nearby. They wake occasionally during hibernation to eat. Then they go back to sleep.

Many animals do not hibernate at all. Try to think of some animals that you see outdoors in winter. If they do not hibernate, how do you think they stay warm? Where can they find food?

—Ilene Follman
Education Consultant

VIEWS OF [illegible] BOTANICAL GARDEN

Children's Films

Shown Saturdays at noon, $1.00 for members, $1.50 for non-members.

Feb. 4: *The Bears and I*
Feb. 11: *Child of Glass*
Feb. 18: *Where the Red Fern Grows*
Feb. 25: *Adventures of Tom Sawyer*
March 10: *Kidnapped*
March 17: *Night Crossing*

Saturday Family Activities

For information and pre-registration see the class bulletin or call 577-5140.

Feb. 11: *Hearts and Flowers*
March 10: *Bountiful Botany*
March 24: *The Family Garden*

Gifted Resource Council Learning Labs

Do you have, or know of, a bright child who would enjoy a fast-paced, in-depth learning experience? The Gifted Resource Council will be offering six week Learning Lab classes at the Garden for gifted children, preschool through 8th grade.

Courses for the Spring session are:

Seeds, Seeds, and More Seeds
(4, 5, and 6 yr. olds)
Journey to the Center of a Plant
(grades 1-2)
Nature's Special Balance
(grades 3-4)
Experiments in Plant Growth
(grades 5-8)

Classes will begin on February 25. For more information, call the Gifted Resource Council at 432-1717.

Gardening in St. Louis

The Next One Hundred Twenty-Five Years

One hundred and twenty-five years may be a relatively insignificant amount of time to a geologist, but to a gardener it represents more than a lifetime of growing beans and marigolds. It is an impossible task to predict all that will be happening in the gardening world one hundred twenty-five years from now, but certain trends are obvious.

Even though our population continues to be more urbanized, home gardening is still our largest outdoor activity. According to a recent *Gardens for All—Gallup Survey*, thirty-five million American households gardened last year. There is no reason to think that the popularity of gardening will not continue, but there will certainly be many changes.

Gardening is a constantly evolving activity. It is shaped by gardeners who decide how much time they can spend gardening, what fruits and vegetables they like to eat, and which ornamentals provide the color, texture, and growth habit that suit their needs.

Let's look at some likely characteristics of typical home gardens in the twenty-first century. Because land will be at such a premium, houses and their lots will be much smaller than those of today. Lawns will also be dramatically reduced in size. Growth retarding chemicals will be used on lawns to reduce grass cutting frequency. Much of the lawn space will be replaced with pavement for human and vehicular traffic or areas for trees, shrubs, vines, vegetables, and fruits.

All natural resources will be precious, dictating very efficient use of petroleum products and water. Drip irrigation systems will be in common use in all edible and most ornamental gardens. Less fertilizer will be necessary since more plants will be able to "fix" nitrogen and thus will be much more efficient in producing their own food. Landscaped areas will be used for multiple purposes; edible plants will be used ornamentally as well as for their food value.

Vegetables will be grown using intensive cultural techniques such as raised beds, wide rows, and deeply-tilled areas. Vertical gardening systems with plants grown on nylon net and wire fences will be the standard. Genetic engineering will be responsible for making many exciting contributions to horticulture. Through this science, totally new vegetables will be introduced. Vegetables will have compact growth habits, increased productivity in small spaces, high resistance to urban pollution, high resistance to diseases and insects, higher nutrient values, better taste and the ability to grow better with less fertilizer. Perennial corn will be grown by many gardeners.

People will be growing their own fruit and vegetables, not as much to save money, but to provide better quality produce and variety. "Gourmet gardening," growing special high-quality vegetables and unusual ethnic vegetables, will be popular.

Insect and disease control procedures for all gardening plants will be easier. In addition to more disease and insect-resistant plants being available, most insects and diseases will be controlled by growth regulators and hormones which do not pollute the environment and are not toxic to man.

The modern fruit garden will be laid out similar to those of hundreds of years ago in Europe. Many trees will be grown in espalier forms in which the plants are planted two to six feet apart and trained flat against walls or against fences. In this way, a small garden will be able to provide a diversified collection of fruits which will bear high-quality fruit over a long period of time. Different fruit varieties will be developed which require little or no spraying for insects or diseases. Fruits of all types will be self-pollinating, that is they will not require any other pollinating varieties. Varieties of peaches, apricots, figs, and other fruits will have been developed which suffer no damage from late frosts or cold winters. The fruit garden will contain some less known fruits like jujube (the Chinese date), kiwis, persimmons, pawpaws, and various hybrid nut trees. All fruit and nut trees will be dwarf or miniature varieties. They will not grow any higher than four to six feet. Decidious and evergreen trees and shrubs will almost all be semi-dwarf to dwarf to make them easier to tend and to be in scale with smaller homes and lots.

Community gardens will increase dramatically as land becomes more valuable and scarce. The European concept of allotment gardening, where families rent a piece of unused urban land, will become common in the United States. Instead of the family having a summer country home, it will have an urban garden site. Greenhouses and solar rooms will become standard home features as heat collectors and growing areas.

Houseplants will be more compact, will flower more often, and will be resistant to insects and disease pests. Thousands of new houseplants, including those collected from the wild and produced by man, will be available to the indoor gardener. Orchids will be a very common houseplant. They will be compact, bloom several times a year and be adapted to growing in indoor home temperatures and environment. Soil will not be used at all for growing houseplants. They will be grown hydroponically, in water and gravel mixes, or totally in soilless materials like peat moss and vermiculite. Gardening by artificial light during the winter will be commonplace. It will be possible, and practical, to grow winter vegetables and houseplants by using efficient electrical lights and hydroponic growing systems which were developed in space programs.

As a member of Missouri Botanical Garden in the year 2,000 you will be able to:

- Have your plant problems diagnosed from your home by video monitors.
- Have a computer-generated, personalized vegetable, fruit, herb or ornamental garden plan available to you immediately after contacting the Garden by phone or computer and supplying us with information such as your garden's orientation to sun, desired amount of produce, and specific plants you want to grow.
- Have direct access to taped video productions on whatever gardening topic interests you.

—Steven A. Frowine, Public Horticulture Specialist

Biggs Elected Board President

Kresko, Orthwein are Vice Presidents

John H. Biggs

C. C. Johnson Spink

Robert E. Kresko

William R. Orthwein, Jr.

John H. Biggs, Vice Chancellor for Administration and Finance at Washington University, was elected President of the Garden's Board of Trustees in January, succeeding C. C. Johnson Spink; Mr. Spink was President since January, 1981, and will continue as a Trustee. The Board also elected Robert E. Kresko as First Vice-President and William R. Orthwein, Jr. as Second Vice-President.

Mr. Biggs, a member of the Garden's Board since June, 1983, also serves as Chairman of the Board of Washington University Technology Associates. Prior to joining the University, he was Vice-President and Controller of General American Life Insurance Company. He holds a Ph.D. in Economics from Washington University and is also a graduate of Harvard College.

He is a director of Centerre Trust Co. and of Mark Twain Institute, as well as the St. Louis Arts and Education Council. He has also served as Chairman of the Finance Committee of the Missouri Coordinating Board for Higher Education.

Mr. Kresko, a member of the Board since August, 1981, is Senior Partner of the Trammel Crow Company, a real estate development Corporation. He holds a degree from Brown University.

Mr. Orthwein, who served as the board's First Vice President from 1980, has been on the Board since 1975. He is the retired Chairman of McDonnell Douglas Automation Company and is a Director of McDonnell Douglas Corporation.

An active three years

During the three years in which Mr. Spink served as President the Garden realized several significant accomplishments. "I would have to say that Johnson's tenure was perhaps the most remarkable in the Garden's history," Mr. Biggs said. "In only three years, we all but completed the Capitol Fund Drive—out of a goal of twelve million dollars, we are just shy by a few hundred thousand dollars. We built and opened the Ridgway Center.

"The successful campaign last year that resulted in the creation of the botanical garden subdistrict was the culmination of the effort by many people, but one of the most important people in that effort was Johnson Spink."

Mr. Spink, himself, cited this last accomplishment as the most important of the three years he served as President. "The creation of the subdistrict is important not only because of the revenue it will provide for us, but because it was an acknowledgement that the people of St. Louis thought of the Garden as important enough for tax support. It's significant that we were able to receive this support in an era in which almost no tax increases are being approved by voters."

He cited the combined effort of all St. Louis area cultural organizations toward the success of the campaign.

"The next most important achievement would have to be the Ridgway Center. It's amazing if you remember what the Garden was like before the Ridgway Center and the general face lift that occurred in conjunction with the Center. First of all, the Ridgway Center allows us to reach more people than ever before with our education and public programs. Second, and almost as important—it's hackneyed to say this, but your first impression is your lasting impression. The Ridgway Center and the related developments give a tremendous first impression. From the new parking lot that visitors do not have to fight to find a space in, to the Center and the wonderfully expanded gift and plant shop and the new restaurant that was made possible by the Garden's dear friend Anne L. Lehmann to the Spoehrer Plaza and Latzer Fountain and all the plazas around the Linnean House. It's all a great introduction for visitors to the Garden.

"All of this is not due to the efforts of one or two people. That would have been impossible; it has to be credited to an awful lot of people. I can only say, for my part, that it was very exciting and rewarding for me to have played whatever role I did."

Consolidating Gains

Commenting on how the achievements of the past few years will affect the Missouri Botanical Garden in the near future, Mr. Biggs said, "I think we made some substantial commitments to the St. Louis community. The next year or so will be one of consolidating all of our gains and of meeting those commitments in education and display.

"But while we will continue to em-

O. Sage Wightman III

Wightman Elected to Board of Trustees

O. Sage Wightman III was elected to the Garden's Board of Trustees at the Board's November meeting. Mr. Wightman is Corporate Vice-President of Stifel Nicolaus and Company, Incorporated. "I've lived in St. Louis for most of my life," Mr. Wightman said, "and I've seen the tremendous growth that the Garden has achieved. It is truly a place that all St. Louisans can be proud of. I'm looking forward to this opportunity to work with the other Trustees and to be involved with what is truly an internationally important institution."

Mr. Wightman was previously with Newhart Cook Incorporated. While there, his name and voice became known to St. Louis radio listeners through his daily reports on the stock market. Prior to joining Newhart Cook, he was with the Mercantile Trust Company. He is a graduate of Williams College and a veteran of the United States Army.

Biggs Elected *(continued)*

phasize the public aspects of the Garden, our research program will also receive a lot of attention. I have a very strong interest in the program since there's a very strong and direct link between the Garden and Washington University." Beginning in 1885, when Henry Shaw founded the school of botany that bears his name at Washington University, the Garden has been a leader in educating young scientists and today has connections with St. Louis University, University of Missouri-St. Louis, and Southern Illinois University as well.

Mr. Biggs added, "I am quite honored at being elected by the Board. I'm looking forward to seeing the tremendous future development; with the tax subdistrict, we have the opportunity to do so much more toward serving St. Louis."

Notes from the Garden

Garden Honors William R. Orthwein, Jr.

At their December meeting, the Board of Trustees of the Missouri Botanical Garden voted to express their appreciation to William R. Orthwein, Jr. and his wife Laura Rand Orthwein by officially designating the floral display hall in the Ridgway Center as the Orthwein Floral Hall.

Dr. Peter Raven, director of the Garden, said that "The Orthweins have been extremely generous to the Garden, giving both financial and personal support over the year. We hope that by this action we can show a small measure of our appreciation."

Orthwein is the retired Chairman of McDonnell Douglas Automation Company, and remains a Director of McDonnell Douglas Corporation. Since 1975, Orthwein has served as a member of the Garden Board of Trustees; currently he is second vice-president. He served as First Vice-President of the Board from 1980-1983. He is also active in several other community and cultural organizations and is currently a member of the Board of Directors of the St. Louis Symphony Society, St. Louis Council of the Boy Scouts of America, and the St. Luke's Development Corporation.

Tower Grove House Benefit

In celebration of the 125th anniversary of the Missouri Botanical Garden, there will be a formal dinner party for the benefit of Tower Grove House, the Victorian-era home of Garden founder, Henry Shaw, on Saturday, April 7; there will be special entertainment. Members interested in further information about the benefit should contact Tower Grove House at 577-5150. The evening is sponsored by Famous-Barr Company.

More Public Gardening Information

Steven A. Frowine, the Public Horticulture Specialist, who appears regularly on KMOX's "At Your Service" show, has further expanded the Garden's public outreach efforts. He is now producing two radio news shorts each week which air on Bob Hardy's "Total Information A.M." show on KMOX. Another new project is a short, weekly gardening column which now appears in the Thursday *St. Louis Post-Dispatch*.

Speakers Bureau

Landscaping, garden design, nature photography and natural history all are included on the extensive list of topics for lectures and slide presentations by the Missouri Botanical Garden Speakers Bureau. The bureau is an outreach committee of more than 40 specialists in the areas of horticulture and environmental sciences available to speak with advanced nature groups as well as novice enthusiasts.

Also included on the bureau roster are subjects pertaining to contemporary solar greenhouse management, organic gardening and new concepts for lawn maintenance. Interest groups may also request specially tailored presentations.

There is a nominal fee of $35 (senior citizens $20) for a speaker session. To request a list of topics and to make arrangements for a speaker, call 577-5140.

The staff, volunteers, and trustees of the Garden were saddened recently to learn of the death of Paul Miller (shown at left with past president of the Executive Board of the Members, Mrs. Shadrach F. Morris). Characterized by all who worked with him as dependable and resourceful, Mr. Miller served the Garden as a volunteer for nearly a decade.

Hyland Honored at Shaw Banquet

C. C. Johnson Spink (left) and Robert Hyland

Peter Ashton, featured speaker

Robert Hyland, Regional Vice President of CBS and General Manager of KMOX Radio, received the 1983 Henry Shaw Medal at the annual Henry Shaw Associated Banquet in November. Mr. Hyland was honored for his contributions to the civic life of St. Louis, but most especially for his work as Chairman of the successful Zoo-Museum District campaign earlier in 1983. As a result of that campaign, the Garden now receives direct tax support, for the first time in its history, through the new botanical garden subdistrict of the 12 year old Zoo-Museum Tax District. Previous recipients of the Henry Shaw Medal, the Garden's highest honor, include the late B. A. Krukoff, S. Dillon Ripley, and Anne L. Lehmann.

The banquet is held each year to honor the Garden's Henry Shaw Associates, who provide leadership in support of the 125 year old institution. The featured speaker for the evening was Peter Ashton, Director of the Arnold Arborteum of Harvard University. His talk is reprinted below.

Guest Comment

Peter Ashton's Address, Nov. 15, 1983

On a visit to Panama recently, a social anthropologist there explained to me the harrowing plight of poor farmers. The government of Panama had given many a new start by settling them on forest land. They had regained hope, cleared the forest and planted pasture; but now, only twenty years later, the land was exhausted, and the farmers once again destitute, their land sold to repay debt. I discovered to my surprise that poverty and malnutrition are widespread in rural Panama. Surprise, for her population is a bare two million, in a land of 29,000 square miles. My career as a botanist has been in Asia and at once the island of Java came to mind. To be sure, Java is 50,000 square miles in extent, and is blessed with two extensive fertile plains, but its geology, soils and climate are not otherwise greatly different. Java supports a population of 95 million! How can this be so? There are a number of reasons, but the overriding one is cultural. In Panama, the descendants of ranchers from the arid hills of southern Spain still cling to their farming traditions, lacking experience of alternatives, as the Scots of Queensland long held to their sheep. The Javanese, though, recognize in water, mountains and stones a world of interdependent spirits with which they must perpectually negotiate, and can never dominate. Fortunately for them the Hindus, masters of such negotiations, taught them the art of irrigations one thousand years ago, and their mythology, social structure and family life revolves around the intricacies of paddy cultivation.

But their negotiations have yielded the Javanese far more than boiled rice. There are as many *species* of vegetables in Javanese markets as there are varieties in Burpee's catalogue. Young mangoleaf-sprouts vie with *Sesbania* flowers and roots of the giant aroid, *Amorphophallus*, for the dinner table; while salt as well as sugar, and the basket within each is contained, all come from a single palm, the *Nypa*. Wherever the great Indianized civilizations of the East Indies established—Java, Bali, Palembang, Kelantan, Brunei, Samarinda, Makassar, there remain even now an astonishing variety of fruit trees and vegetables grown, often originating from species known only from the forests of the adjacent hinterland.

We share the Pananamian heritage and, to be sure, we have much to thank it for. But, in the last four centuries of European expansion worldwide, how many species of fruit or vegetable have we, with all our sciences, introduced from the wild for the first time? The only one that comes to my mind is the Macadamia nut from Australia, where the aborigines were not cultivators before the Europeans arrived.

As we are now so well aware, it is in the tropics that the problems of overpopulation are yearly becoming more severe. Before this century, the population centers of the tropics were the irrigable lands of the fertile plains and rich volcanic mountain slopes, while the marginal soils of most of the humid tropics supported a scant minority of slash-and-burn subsistence farmers. Now, increasingly, landless plainspeople with inappropriate farming skills are desperately invading the steep lands, and the infertile granites and sandstones of badlands, heretofore forested, of the Amazon and Borneo.

The farmer of irrigated land, now bolstered by western technology amends the land to fit his crop, but this will never be economically feasible for food crops on the lean soils now being opened up. There, the crop must be amended to suit the site. This requires access to a vast repetoire of preadapted crop species, if the most benefit is to be eked from the vast range of soil and climate that the marginal lands of the tropics represent.

The ancestors of Javanese vegetables come from the forests that once mantled her fertile lands, and are often extinct in the wild on that account. Nothing less than a new era of exploration and introduction is now needed, to cull the forests of the badlands, before they go, for preadapted species useful to man. This has barely been started. Who is equipped for this dauting yet urgent task? The agricultural research establishments are now too specialized to the

News for Members

Members' Days

During 1984, the Missouri Botanical Garden will introduce a new benefit for its Members: twice monthly Members' Days. On those days, Members will receive free tram rides, an additional five percent (5%) discount on plant purchases, and have the opportunity to purchase special meals in the Gardenview Restaurant. The Garden Gate Shop will also offer special Members' Only Sale Items.

In addition, each Member may bring two guests, free of admission charge, to the Garden.

Each Members' Day will also feature special events, including family activities, educational lectures, demonstrations, and valuable horticultural advice. The schedule of events for the February and March Members' Days is as follows:

February 21: A guided tour of the Climatron, led by Bill Wagner a horticulturists on the Garden's staff. His tour will concentrate on tropical plants of economic value. In the afternoon, Joseph Matyi, a member of the Education Staff, will provide a Flower Arranging Demonstration in the Shoenberg Auditorium.

February 25: A guided tour of the Orchid Show, led by the Missouri Botanical Garden guides; Jack Jennings, whose photographs graced the 1984 Garden Calendar, will present a slide program, *The Garden through the Seasons*, in the Shoenberg Auditorium.

March 8: The Education Department will present *The Wonderful World of Plants*, a puppet show for 4-7 year old children, in the Garden Room. In the afternoon, enjoy a slide-lecture presentation on the sculpture of the Missouri Botanical Garden; the speaker will be Mary Jane Kirtz, a Garden volunteer and guide who has done extensive research into the history of sculpture in the Garden.

March 18: David Vismara, the Garden's Rosarian, will present a program on Rose Care. There will also be a guided tour of the Garden given by the Guides.

Activities for each of the Members' Days begin at 10:00 a.m., except on February 25 and March 18, when they commence at 2:00 p.m. Reservations are necessry for all tours and may be made by calling 577-5186.

So you won't forget about the Members' Days, mark your calendars now with the stickers found at the center of the Bulletin. Dates for four months after March are: April 14 and 26, May 9 and 20, June 4 and 30, and July 12 and 28.

Other Membership activities to watch for during 1984

- 125th Anniversry Celebrations
- Camera Days
- Children's Activities
- Movies
- And of course, the Flower Show Previews and special Members Only Sales in the Garden Gate Shop.

Also New for Members in 1984

The Garden has added a Membership Services and Information Desk located at the ticket counter in the Ridgway Center. The Desk will be staffed by specially trained volunteers who can provide information about Membership benefits and activities and to answer questions from visitors about the Membership Program in general. The Desk will be staffed during special events during the winter

Conservation Forum

A new organization is being formed at the Garden for Members interested in topics pertaining to conservation: the Missouri Botanical Garden Conservation Forum. The Forum will provide lectures, films, and other programs. There is no charge for Members who wish to join.

The first program is set for March 25, and offers an opportunity to breakfast with Roger Tory Peterson in the Beaumont Room of the Ridgway Center. Mr. Peterson will also present a lecture that evening. Cost for the continental breakfast is $3.50.

A second program, featuring Dr. James Henry Wilson, will focus on endangered plants and animals of Missouri and is set for May 11.

Comment *(continued)*

main line crops, too concentrated on the laboratory. The early tropical botanical gardens, though now relegated to recreation and academic inconsequence, were established for this very purpose. Botanical gardens are the storehouses, the libraries of knowledge concerning plant diversity. These tropical gardens must be reinvigorated: with their resources a fusion can be achieved, between Western inquisitiveness and technology and the empirical experience of those native minorities who have, over generations, learned how to husband the marginal lands and the plants that grow on them.

The initiative must first come from us. A small group of leading botanical gardens in the industrialized world now command the most comprehensive resources, and sustain the dynamic research programs necessary to meet the challenge. St. Louis is privileged to host the premier garden for the exploration and inventory of Central American and Andean plants. If the work is not done, we will all share the consequences as the destitute pour northwards across our borders.

This city has much to take pride in. Here, in the Missouri Botanical Garden, dedicated scientists are giving the lead. The dynamic public programs, of the Garden are making people at large aware that apparently esoteric work, inscrutably proceeding behind the reflecting glass of the Lehmann Building, has important implications for them. I congratulate the staff of this wonderful place for their remarkable achievements. Yet more, I congratulate you, her patrons, for your breath of vision in providing the necessary support. Your joint contribution to the task before us promises to be truly impressive.

—Peter Shaw Ashton, speaker at the Henry Shaw Banquet, is Director of the Arnold Arboretum at Harvard University.

***Julius Hunter** (above) is the featured speaker for the opening lecture of the Member's Lecture Series, beginning March 7. Mr. Hunter, co-anchor of KMOX-TV (Channel 4) news, will present a program about Kingsbury Place, an historic St. Louis neighborhood at 10:30 a.m. on that date. The series continues until mid-April; Members should watch for the schedule in the mail.*

Increased Support

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1 Title of Publication: MISSOURI BOTANICAL GARDEN BULLETIN. Publication No. 00266507
2 Date of Filing: October 15, 1983
3 Frequency of issues: Seven times a year, in Feb., Apr., May, June, Aug., Oct., Dec. $12.00 per year.
4 Location of known office of Publication: P.O. Box 299, St. Louis, Missouri 63166
5 Location of the Headquarters or General Business Offices of the Publishers: P.O. Box 299, St. Louis, Missouri 63166
6 Names and complete addresses of publisher and editor are: Publisher: Board of Trustees, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166. Editor: Joseph M. Schuster, P.O. Box 299, St. Louis, MO 63166
7. Owner: Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166
8. Known bondholders, mortagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities: None
9. The purpose, function and nonprofit status of this organization and the exempt status for Federal income tax purposes has not changed during preceding 12 months. Authorized to mail at special rates (Section 132.122, PSM)
10. Extent and nature of circulation:

	Average no. copies each issue during preceding 12 months	Actual no. copies of single issue published nearest to filing date
A. Total no copies printed (Net Press Run)	18,600	17,980
B. Paid Circulation		
1. Sales through dealers and carriers, street vendors and counter sales	none	none
2 Mail subscriptions	16,660	16,192
C. Total paid circulation	16,660	16,192
D. Free distribution by mail, carrier or other means—samples, complimentary and other free copies	1,063	1,034
E. Total distribution		
1. Office use, left-over, unaccounted, spoiled after printing	877	754
2. Returns from news agents	none	none
F. Copies not distributed	17,723	17,226
G. Total (sum of E, F1 and 2—should equal net press run shown in A)	18,600	17,980

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The Garden Then . . . And Now

In the 1890s visitors arrived at the Flora Gate in horse-drawn carriages (above). Today visitors to the Garden arrive by automobile and enter through the Ridgway Center (right).

Garden Will Host Science Educators Symposium

The second St. Louis Science Educators Symposium is set for March 2 and 3 at the Missouri Botanical Garden and will feature speakers, workshops, and exhibits relating to the symposium theme, "The Earth as a Greenhouse: Energy and Ecology." Elementary and secondary teachers of science are invited; space is limited, however, so interested persons are urged to make reservations as soon as possible. The cost is $20, and includes lunch and two receptions as well as materials. For information, call the Education Department at 577-5140.

MISSOURI BOTANICAL GARDEN BULLETIN (ISSN-0026-6507)
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lume LXXII, Number 2
ril 1984

Missouri Botanical Garden Bulletin

rowth by Design

For most of us who visit the Missouri Botanical Garden, it eems that changes and improvements just sort of happen; one ay, someone just comes in, digs up a little earth, plants a bit of is or that or starts laying a foundation for an ediface (like the ew tram shelter, for example, or the dining canopy on the south de of the Ridgway Center), and *voila*, a new structure or garen is added.

This is not the case. For every alteration or expansion of the arden, months or often years of planning take place before ven the first spade-full of dirt is turned. Since early 1972 the arden has been working with Environmental Planning and Degn of Pittsburgh, Pennsylvania, an internationally recognized ader in urban planning, community design, and landscape arhitecture in this development. Almost all of this work has been andled by one of the principle partners of E.P.D., Geoffrey L. ausch.

Most of the development of the last twelve years has evolved om the Master Plan that E.P.D. devised, beginning in 1972, in ose collaboration with members of the Garden's staff. The ost visible results of that plan are the Ridgway Center, the Garen's two-year-old visitor and education facility, the new garens at the north end, the Japanese Garden, the Anne L. Lehann Rose Garden, and the fountains throughout the grounds, cluding the Shapleigh, Shoenberg, and Latzer fountains.

One of the most important developments called for in the laster Plan, however, is one that is not yet complete—the ome Garden Center that will be just north of the Japanese arden.

On one of his frequent trips to the Garden—he comes here about every two weeks during the year—Rausch talked about these developments and about the planning process in general.

(continued on page 4)

> *"Of all public resorts a scientific garden when properly kept, will be found to be, not only one of the most delightful mediums for intellectual gratification and amusement, but, also one of the greatest of temporal blessings that can be enjoyed by a people.*
>
> *"To all classes of society, the old and the young, the infirm invalid, or the robust and the vigorous, the rich and the poor, a garden may be considered, almost alike an object of interest, of instruction, and amusement. It is a field which abounds with objects that generally make lasting impressions on the mind; and happily there are but few, who, however unacquainted with the principles of botanical science, are not more or less filled with admiration at the endless variety of form, presented by an considerable assemblage of the vegetable kingdom; their grotesque trunks, and tapering stems; their leaves so varied in shape, and so beautiful in structure; their flowers, so curious in their parts, so diversified in colour, and often so exquisitely fragrant; but above all, how admirably adapted is each, in one way or another, for the use and gratification of man."*
>
> —Henry Shaw, 1880

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Comment

While we are still caught up in savoring and celebrating 125 years of tremendous accomplishments here at the Garden, we are looking toward our future with an equal level of anticipation. I am happy to announce that we are now taking the first step in developing what will likely become one of our most popular garden features.

Dr. and Mrs. Walter L. Moore have generously provided funds to begin the planning and development of a Home Garden Center. We are equally fortunate to have Geoff Rausch of EDP who has guided the Garden's master plan for so many years working with us to integrate the Home Garden Center into our overall plan. Louis R. Saur and Associates has been selected as the architectural firm for the education building which will be a critical feature of the center.

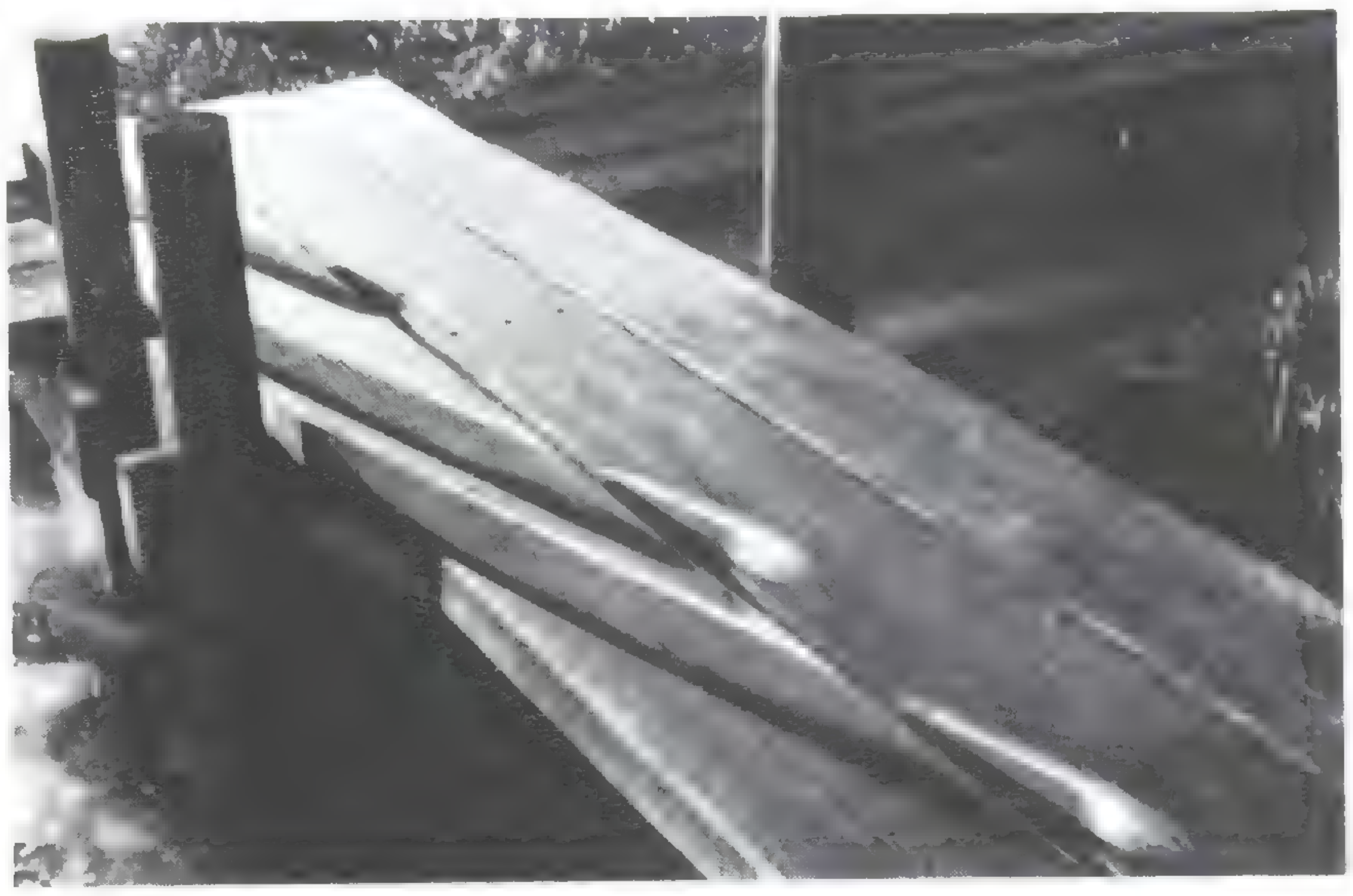
The new Home Garden Center will be a complete resource for avid gardeners in our region. It will be an exciting place, full of ideas, plans and techniques which can be readily transported to a home garden. Visitors will be able to see new varieties of plants, learn how to espalier fruit trees or study the latest techniques in home gardening. For the first time, we will have the opportunity to share directly our extensive knowledge and skills in horticulture with our Members and the public.

It is fitting that 125 years after Henry Shaw opened his beloved garden to the public, the Missouri Botanical Garden is still seeking and finding new ways to involve the public in the joys of our Garden. We continue a proud tradition.

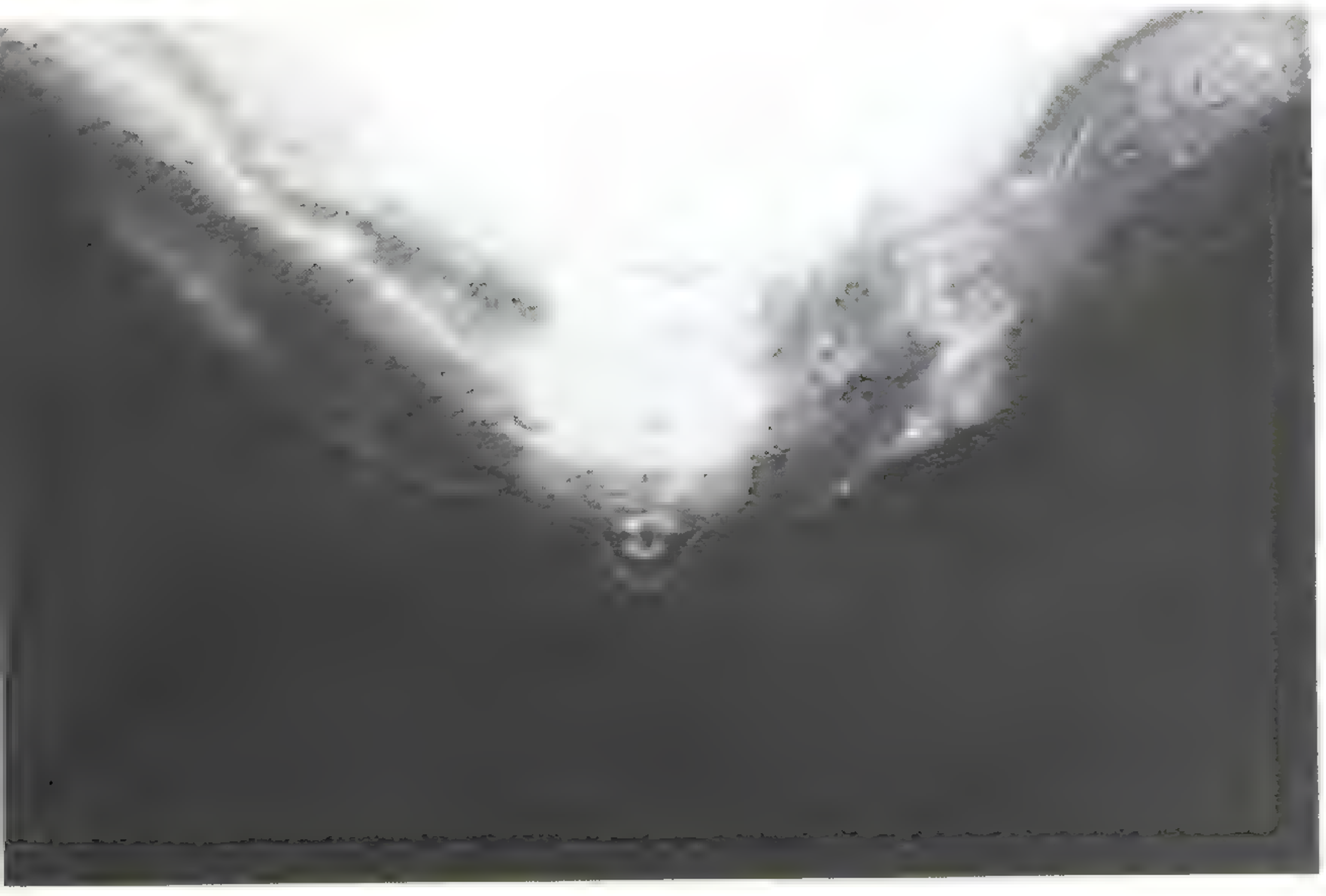
Peter H Raven

In this Issue... You'll read about botany in Cameroon and an education program in Colombia; the fascinating history of two-century-old engravings and the origins of Arbor Day; you'll find out what trees and shrubs are good for St. Louis; and your children can discover the wonders of spring wildflowers. We also have a remnant of the beauty of winter, as we see below.

Winter Photo Contest Winners



Frost in Shade, by Sandra Black



Winter Respite, by Susan T. Carlson

More than 200 photographs by talented amateurs were entered in the 1984 Winter Photography Contest. Four first prizes and seventeen honorable mentions were awarded in the four categories. In the senior division, black-and-white category, T. Ann Tobin received first prize. Susan T. Carlson was awarded first prize in the senior color category. In the junior division (under 18), Sandra Black received first prize for black-and-white, and Sally Schulze won first prize for color. The judges for the contest were Kristen Peterson, a St. Louis award-winning photojournalist, Jack Jennings, whose own photographs have been featured in the last three Garden calendars and in slide presentations, and Joseph M. Schuster, the Garden's Manager of Publications.

Corner Stones, by T. Ann Tobin

Blue Ice, by Sally Schulze

Growth by Design

(continued from page 1)

The work of E.P.D. is pretty diverse; I have planned a national cemetery and a small park in Toledo, Ohio, but my first love is the work I do in botanical gardens and arboreta. E.P.D. has done work on 15 botanical gardens and arboreta, including the Cary Arboretum, the Holden Arboretum and the Chicago Botanic Garden. Because of this work, Peter Raven contacted E.P.D. to discuss the development of a Master Plan for the Garden.

When we did our first analysis, we found that there was a feeling among visitors that you came to the Garden to see the Climatron. The entrance was through the Flora Gate off of Tower Grove, and the first thing you saw was the geoedesic dome. From this vantage point it was such a dominant feature that visitors could not see past it.

To overcome this limitation, our main goal became the use of the entire Garden; at the time, there was nothing happening at the south end. There was already talk of a Japanese garden, but the plan was to build it behind the Climatron. We were convinced, however, that it was a strong garden area, and that it could attract visitors to the south end, so we put it there.

"Dr. Raven also said that the Garden needed to enhance its education program. He wanted to open the best demonstration garden in the country in order to help people recognize the importance of plants in their lives; to get them interested in plants. I don't think that most people realize that there was a plan for the Home Garden Center as long ago as 1972, but there was.

From the very beginning of the process, we—E.P.D., Peter Raven, the Trustees, and the Garden's staff—saw the pressing need for a visitor and education center. We anticipated that attendance would start to increase and that the Flora Gate and the old visitor parking lot would be inadequate to handle that increase.

As I said, we also wanted to encourage visitors to see more than the Climatron when they came, but we needed to work out a way to draw visitors through the whole garden. In planning, you start with the major features of a garden—the largest uses of your space. At the Garden, we had three main components—the visitors' center at the north end, the Climatron roughly in the center of the Garden, and the Japanese Garden in the south.

These features define the direction of the main path, the main loop through the grounds. Once we had the main loop set out, we started to fill in the rest of the space with other features—the Anne L. Lehmann Rose Garden, the English Woodland Garden, the Scented Garden, and so on.

Philosophically, we looked at the Garden in terms of visitor experiences. For example, some people who come here are handicapped or elderly and can't walk far. Some others have limited time because they come on their lunch hour or on a bus tour and so on. So we developed the gardens in the north end, near the Ridgway Center for them.

The visitors who have more time follow the long loop through the entire Garden. Along the loop are sculptures and fountains which serve as focal points and draw visitors through the grounds.

I am really pleased with the way that the Garden has developed. If you consider what the Garden looked like ten years ago and what it is today, it's amazing how far we have come. Peter Raven and the Board have done an unbelievable job in raising money to make all of the development possible. Ten years ago, there was no Japanese Garden, no Lehmann Rose Garden, no Ridgway Center. The parking situation was terrible.

The work is not complete, of course. The Home Demonstration Garden is a tremendously exciting new project. The effect it will have on the Garden will be enormous. We wanted to create a facility that would get people excited about gardening and I think the Center will do that.

The Center will have exhibits on the history of gardening and on the most up-to-date methods of gardening. We are even planning to have a kitchen in it so that we can have cooking demonstrations. There will be a kitchen garden area and an herb garden, as well as displays of tools, pesticides, herbicides, and about organic gardening.

The reason the Garden was opened and continues to operate today is to provide pleasure and edification for everyone who visited it. The Home Garden Center, and everything else that E.P.D. and the Garden's staff—and I want to emphasize that without the marvelous staff of the Garden, nothing of what has been planned would ever have come to anything—everything that has been planned functions to a degree that few other gardens in the world have achieved.

I have worked with many botanical gardens throughout the country and I'd have to say that there is none finer than this one.

Gardening in St. Louis

Recommended Trees and Shrubs for St. Louis

Planting the right trees and shrubs for your yard is an important decision which can have long-term consequences. Good selections can result in years of pleasure; poor ones can mean future aggravations including chronic disease and insect problems, messy ornamental fruits, extensive surface roots, and broken limbs from weak wood. In short, it is worth the extra effort to search-out those trees and shrubs with superior qualities.

The following lists were compiled by Alan Godlewski, Chairman of Horticulture, and me for Union Electric Company's booklet, *Landscaping for Energy Conservation*. We hope you will find them helpful.

—Steven A. Frowine, Public Horticulture Specialist

Trees

Maple, Oak, Honey-locust

Swamp White Oak—*Quercus bicolor* (height to 60 feet) A long-lived tree which can be used as a shade or specimen tree. Good tree for wet, poorly-drained areas.

Red Oak—*Quercus rubra* (height to 75 feet) One of the most popular of all oak trees; easy to transplant and grows rapidly. The color of its foliage changes to crimson and purplish-red in the fall.

Sugar Maple—*Acer saccharum* (height to 80 feet) Good for shade and beauty. Foliage turns to yellow and red in the fall.

Red Maple—*Acer rubrum* (height to 100 feet) Branches develop low and form a dense, narrow crown. Reddish flowers; scarlet and orange foliage in the fall.

Norway Maple—*Acer platanoides* 'Crimson King' (height to 60 feet) A beautiful ornamental with brilliant crimson leaves.

Thornless Honey-locust—*Gleditsia triacanthos* 'Skyline' (height to 130 feet) An attractive tree with fine-textured leaves. Provides filtered shade. Yellow fall color.

Japanese Zelkova—*Zelkova serrata* (height to 90 feet) Looks similar to a small-leaved elm but *not* susceptible to Dutch Elm disease. Yellow to russet leaves in the fall.

Ash, Ginkgo, Gum

Marshall's Seedless Ash—*Fraxinus pennsylvanica* 'Marshall's Seedless' (height to 50 feet) A shapely tree which resists drought and disease.

Sweet Gum—*Liquidambar styraciflua* (height to 100 feet) Fast grower, with large, green, star-shaped leaves that turn golden and scarlet in fall. A good shade tree.

Ginkgo—*Ginkgo biloba* (height to 60 feet) A picturesque tree that is generally free of insects and disease.

Beech, Cherry, Linden, Tulip

Copper Beech—*Fagus sylvatica* 'Atropunicea' (height to 75 feet) A low branched tree that changes its leaf color from purple to almost black to copper in the fall.

Wild Black Cherry—*Prunus serotina* (height to 60 feet) Provides white spring flowers. This tree is medium-sized with a narrow crown.

Sargent Cherry—*Prunus sargentii* (height to 75 feet) Hardiest and finest cherry for this area. Single, deep-pink blossoms.

Littleleaf Linden—*Tilia cordata* 'June Bride' (height to 50 feet) A formal pyramidal-shaped tree of moderate growth.

Silver Linden—*Tilia tomentosa* (height to 90 feet) Grows rapidly with pyramidal shape.

Tulip Tree—*Liriodendron tulipifera* (height to 150 feet) Tall, straight trunk with large, irregular leaves.

Fir, Pine, Spruce, Hemlock

Norway Spruce—*Picea abies* (height to 100 feet) This spruce is good for a windbreak, as a screen plant or a hedge.

Douglas Fir—*Pseudotsuga menziesii* (height to 100 feet) One of the largest of the evergreen trees.

White Fir—*Abies concolor* (height to 100 feet) color ranges from pale blue-green to blue. Slow grower, very hardy.

Eastern White pine—*Pinus strobus* (height to 100 feet) Useful as a screen or windbreak. Long-lived and vigorous.

Scotch Pine—*Pinus sylvestris* (height to 75 feet) Fast growing. Good for screen planting or as a specimen.

Canada Hemlock—*Tsuga canadensis* (height to 90 feet) Graceful, hardy tree. Can be grown as a specimen or clipped hedge.

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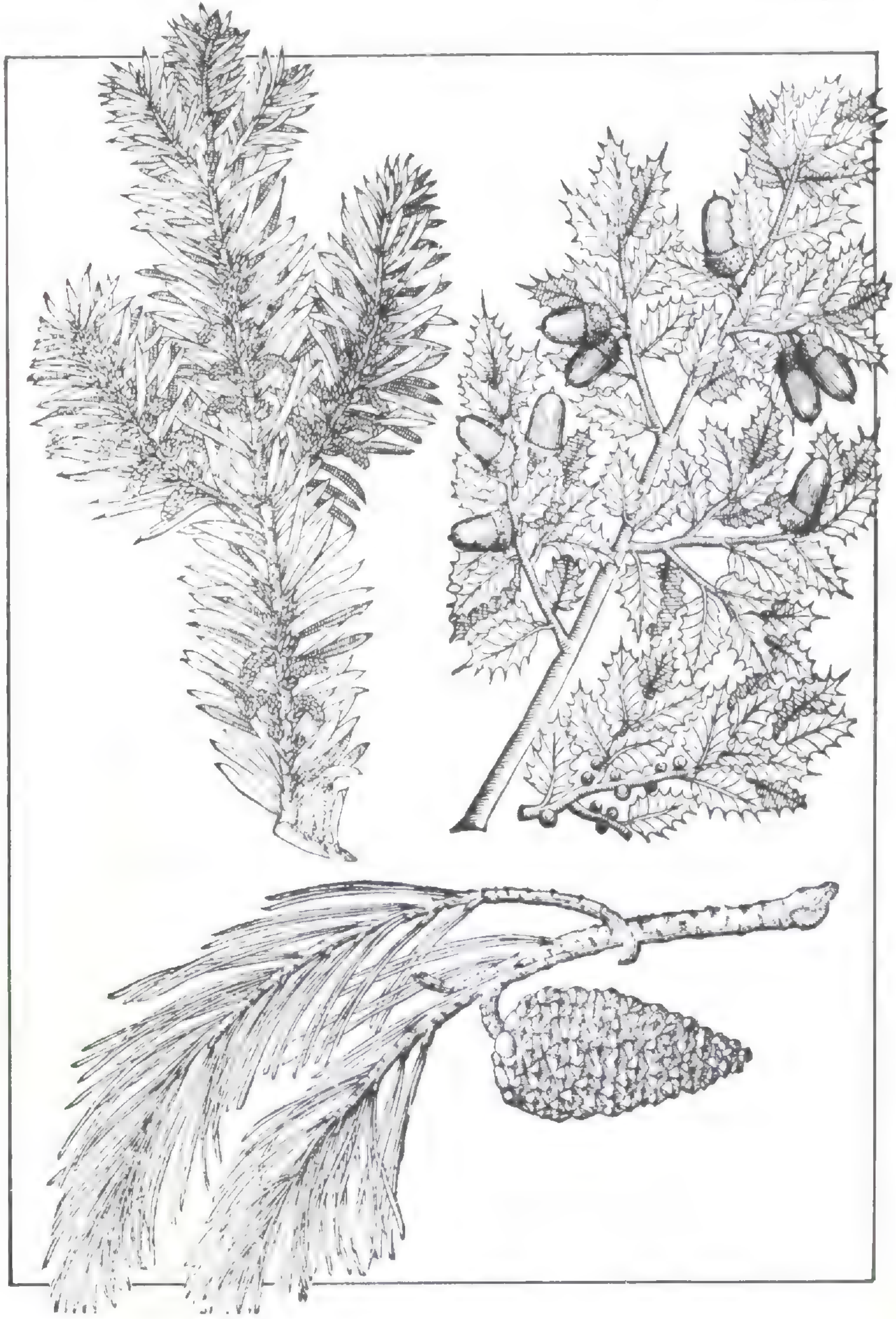
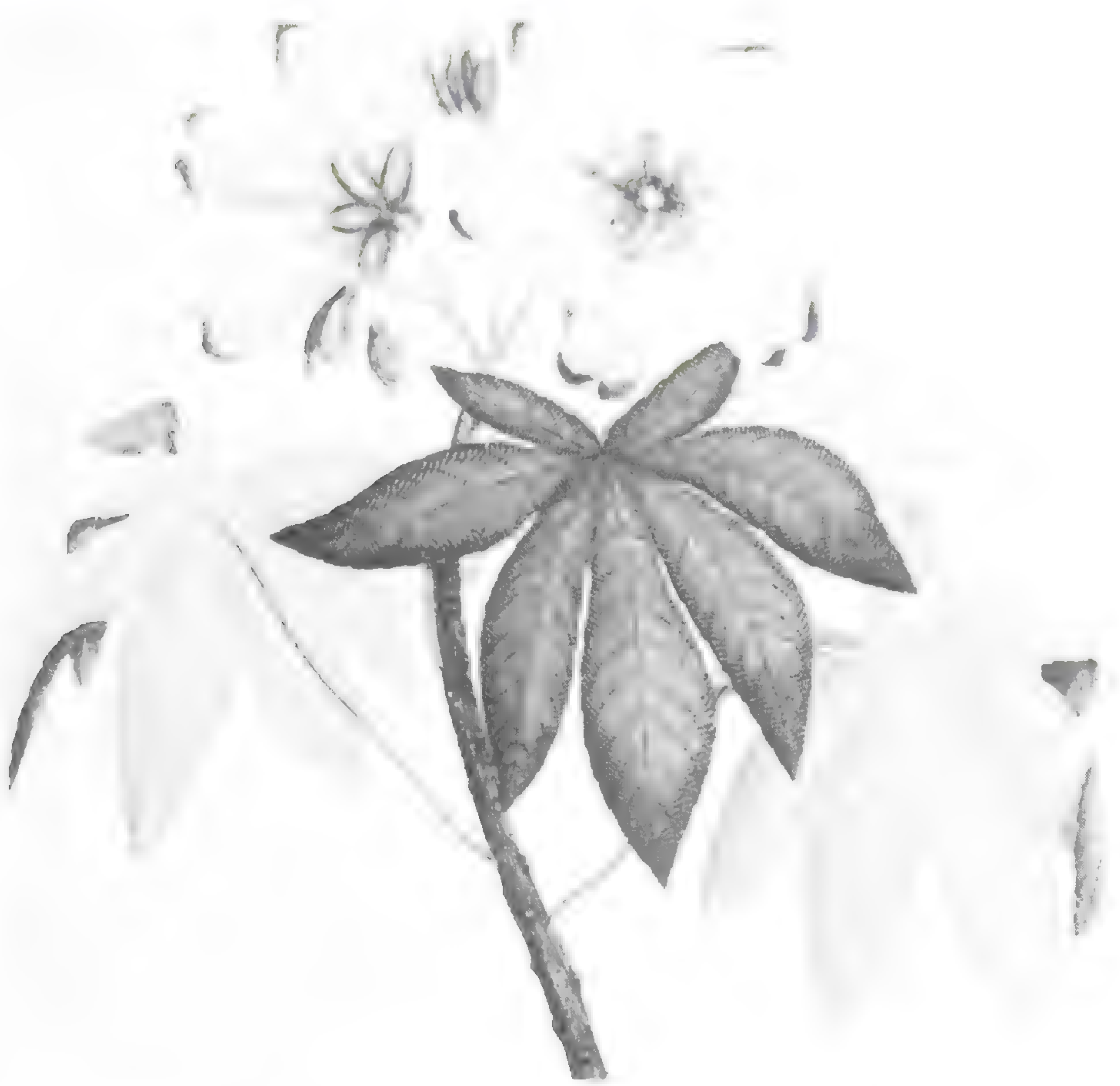


A Free Energy-Saving Booklet

The Union Electric Company has recently published a very interesting and useful booklet entitled, *Landscaping for Energy Conservation*. It explains how plants can significantly reduce energy consumption and was written specifically for the St. Louis area. It is available *free* to our members at the ticket counter. Pick up your copy now!

Banks' Florilegium: Tragedy, History, Art



From April 28 through May 28, visitors to the Garden will have the opportunity to view a collection of stunning prints based on 200-year-old engravings of plants collected during Captain James Cook's first trip around the world. The exhibit will be in Monsanto Hall, and is presented in celebration of the Garden's acquisition of a limited edition set of the engravings.

In 1768, at a time when his native England was having ir
creasing trouble with dissent among its North American co
onists, Captain James Cook set off on the H.M.S. *Endeavor* t
follow the transit of Venus. His journey took him on a circumnav
igation of the globe, during which he made extensive explora
tions of the coasts of New Zealand and Australia. Accompany
ing him were naturalist Joseph Banks and the reknowne
botanical artist, Sydney Parkinson. Parkinson made sketche
and watercolor paintings of the plants collected by Banks an
the other botanists on the crew during the voyage. Tragically, th
young artist—he was only 26—died before the *Endeavo*
returned to England in 1771.

Banks turned Parkinson's work over to a group of engraver
and spent $1 million to produce 750 copperplate engravings c
the sketches and paintings; he intended to publish them as a
artistic record of the botanical findings of the voyage. But afte
the engravers finished their work, Banks lost interest in th
project, and the engravings were stored in the basement of th
British Museum. They remained there until 1980, when Alect
Editions of London began publishing an edition of the 738 plate
that survived the two intervening centuries intact. Only 10
copies were produced; of those, only 15 were to be sold in all c
North America. The Missouri Botanical Garden is the only bo
tanical institution in the U.S. to subscribe to a complete set of th
engravings, which are being issued in installments throug
1986. Only five U.S. libraries have purchased a set.

The acquisition of this set of the engravings—recognize
worldwide as one of the landmark publishing events of the 20t
century—is made possible by the generosity of the Steinber
Charitable Trust, the Sidney and Sadie Cohen Foundation.

Education Department Develops Environmental Program in Colombia

The Garden's commitment to global ecological concerns took a new direction in January, 1984, when I taught a two week environmental education course, in Spanish, to elementary school teachers in Colombia, South America.

The Missouri Botanical Garden already has a strong exchange program in tropical botanical research with the Botanical Garden in Medellin, Colombia. While in St. Louis as part of that program, Enrique Renteria, scientific director of the Medellin Botanical Garden, had the opportunity to observe and participate in an ECO-ACT weekend study trip. ECO-ACT is the Garden's award-winning environmental education program. With Missouri Botanical Garden staff he formulated a plan aimed at preventing long term and severe ecological damage in Colombia by educating the public in rational resource management; the Medellin Botanical Garden would train teachers in environmental education so that those teachers could take resource management concepts back to the classroom, and the garden in Medellin would begin to develop an education department patterned after ours in St. Louis.

Medellin is a large modern industrial city like, yet not quite like, St. Louis. The residents use Woolite and deodorant and disposable products, but there is no coherent solid waste disposal plan; a mini-mountain of garbage downtown attracts several dozen vultures who take their mid-afternoon siesta perched in a tree above the garden restaurant. The homes have flush toilets, but there is not one sewage treatment plant; black water flows in the city's rivers. The new highway to Bogota is plagued regularly by mudslides, caused by a lack of vegetation on the
steep hillsides. Good citizens traveling down the highway throv
trash out the windows to keep the bus clean. And three hour
from Medellin, upstream from the Rio Claro nature preserve, a
concrete factory will soon be built in virgin forest, destroying fo
ever tropical flora and fauna that was meant to be set aside.

It was in this setting that I conducted the two week intensiv
course with forty teachers from the surrounding area. Th
course focused on the methodology for communicating re
source management techniques to children. I taught activitie
the Garden's staff had developed for ECO-ACT, including som
designed to develop awareness, motivation, understanding an
skills that would result in environmentally responsible behavio
Students develop an awareness of their relationship to the nat
ural world, and an understanding that environmental problem
exist, by developing observation skills. Students also ar
motiviated to protect the natural world and resolve environmen
tal problems by developing positive attitudes, values, and feel
ings about the environment as well as about themselves. The
need to develop an understanding of ecological relationships
as well as of environmental issues such as air and water pollu
tion, solid waste, agriculture and erosion, energy sources an
uses, and resource scarcity. Finally, the children develop inves
tigative skills and problem solving skills such as learning t
recognize and define environmental problems, collecting, o
ganizing, and analyzing information, and evaluating alternativ
solutions.

The course was augmented by guest lectures and field trip
to two local resources, the Zoo and the Museum of Natural His

issouri Botanical Garden to omputerize Field Operations

Research scientists working for the Missouri Botanical Gar-en in eight tropical countries will be the first to computerize heir operations, thanks to the generosity of Kaypro, a division f Non-Linear Systems, Inc. Kaypro donated ten portable aypro II computers to the Missouri Botanical Garden in order speed the relay of information from the field.

According to Dr. Marshall Grosby, director of research for the arden, the addition of the portable computers will allow field esearchers to make their notes on disks and then mail the disks ack to the Garden where they will be fed into a larger computer. Traditionally," Crosby said, "field notes are taken by hand and hen have to be entered directly into the large computer. The aypros will eliminate the need for extensive re-entry of data nd will eliminate mistakes that are made in converting the nformation."

Dr. Peter H. Raven, director of the Missouri Botanical Gar-en said, "the urgency of this research is underscored by the larming destruction of tropical forest which could result in the xtinction of an estimated one-fourth of all the plants, animals nd micro-organisms on earth in the next 30 to 40 years. Many opical species have not even been seen by scientists, let alone xploited for potential sources of food or medicine." Raven con-nued, "the addition of these field computers will mean that crit-cal specimens will be available sooner to researchers around he world."

Eight of the computers will be stationed with permanent arden staff who are conducting long-term floristic and tax-nomic research in New Caledonia, Madagascar, Cameroon, olivia, Peru, Panama, Costa Rica and Nicaragua. One will be vailable for shorter-term field work in areas like Venezuela, olombia, Ecuador and southern Africa where staff members avel regularly throughout the year. One will also remain here St. Louis to develop additional programs for use in the field.

The Missouri Botanical Garden has the largest and most ac-ve field program of tropical botany in the world.

ducation Department *(continued from page 6)*

ory. On weekends, the high altitude flora of Padre Amaya Hill as compared and contrasted with the flora found at the low ltitude Rio Claro Nature Preserve.

The response of the teachers to the course was more than nthusiastic. They wanted to continue their study of ecology. hey particularly appreciated the practical nature of the course; he teachers learned many techniques for communicating ecol-gy to children. One teacher, Saturia Echeverri, commented uring the evaluation session:

"When I signed up for this course, I hardly knew what ecol-gy meant. I knew it had something to do with living things, and hat appealed to me. But now I am leaving this course not only ith a wealth of ideas, displays, and activities to take back to my lassroom, but also with an enthusiasm to communicate to my tudents the understanding that man is an integral part of the eb of life, and everything we do affects the natural world upon hich we depend for survival."

That just about sums it up.

—Karla Goodman, Education Department

Letter from Cameroon

For three weeks over Christmas (on Christmas Day we decorated a bush with little forest fruits and leaves and tin-foil stars) we participated in an ascent of the south face of Mt. Cameroon. Unlike more familiar mountains, Mount Cameroon covers such a large area that it's often difficult to tell up from down—we never did see the top. The south side is very wet; it's a 13,000 foot rise from the beach to the top. The forest shows little human disturbance (except for hunting), but the volcano erupts so often that the vegetation is a mosaic of forest and meadows in various stages of succession.

I explored botanically up to about 7,000 feet, above which there was only steaming lava from the 1983 eruption—hopeless for plants, though *Funaria* was doing well. The forests are very different to any others I had visited, and are rich in Sapotaceae. Although the mountain is reported to be well-worked, this is only because large numbers of botanists ascend from Buea, which is in the rain shadow and very degraded. The south side is the wettest spot in Africa and relatively poorly known. I got collections of many unusual plants, including a new Euphorb tree to add to a monograph I am currently working on.

Ironically, our main problem was water—there isn't any on the Mount Cameroon because the rock is so porous. Luckily the expedition herpetologist was able to listen for toads, by which means we located the occasional murky tadpole pool. We heard chimps and four species of monkeys regularly, though due to the hunting pressure they were very hard to see. The ornithological thrill was the red-headed rock-fowl *Picathartes*, a rare chicken-sized bird that builds swallow-like nests under ledges. Several nests were found and watched.

After our weeks in these cool shady forests, the heat and humidity as we finally descended to the banana fields was overwhelming. At home in Kumba the dust hung in the air like a Sahara sandstorm, minus the wind.

Other places of interest which have been collected recently include the Korup National Park, several forests near Kumba, and Mt. Kupe, a 6,000 foot mountain to the east of here.

This field season will be over by July, when I'm to be in Tanzania to join a National Geographic Society-sponsored expedition to explore the Usambara Mountains.

In November I briefly visited the herbarium at Brussels, and met with Drs. Leonard, Petit, and Bamps. Dr. Bamps is very keen to exchange duplicates of our Cameroon material for Zaire and other Central African collections. I think this would greatly benefit us, since the Congo basis flora is poorly represented in our Herbarium at present.

We are hosts to several expeditions this year. First, the 7-person ICBP expedition from Canada, UK, and Denmark is staying with us for six months, usually camping in our yard between field trips. We are expecting Roger Polhill (Kew) and Del Wiens (Utah) to arrive for a study of the Loranthaceae in the near future. David Pilbeam (Harvard) and two French associates will be here in March to set up a paleontology project, and Dr. Gartlan (Madison) should return to Cameroon this month to continue management work on the Korup National Park.

Our program for the rest of this season will be concentrated on collecting in Korup, Ejagham Council and, Takamanda forests.

—A. Duncan Thomas

FOR *Younger* MEMBERS

Beauty Is Where You Find It

It is with relief that we greet the warmth of spring, for this past winter was one of the coldest in recent memory. Spring is the time of awakening, of new life for plants and animals. The early spring wildflowers are one of the first signs that the cold winter is over.

Many of the early spring wildflowers can be found in yards, playgrounds, and parks. The flowers, which some refer to as "weeds," come in lovely shapes and colors. They bloom when there is ample sunshine, before the ground is shaded by the new leaves of tall trees overhead.

Take your child outdoors for a spring wildflower hunt. You might find violets, chickweed, gill-over-the-ground, bluets, spring beauties, or dandelions. What colors are the flowers? Which flower is the largest? Which is the tiniest? What is in the center of each flower? Place a magnifying glass over some of the flowers. How much more can you see?

The cheerful yellow flower of the dandelion is loved by both bees and butterflies. Bring a few of the yellow flowers indoors and place their stems in a cup of water. Watch the flowers change to gray-white seedheads within a few days. Collect several different kinds of wildflowers that appear. Press them between newspapers on which you have placed a heavy book. Make a pretty picture by gluing the pressed flowers to a piece of colored paper.

Many wildflowers have special stories about how they grow or how they got their names. Find a wildflower book at the library. See how much more you can learn about the flowers you discover.

—Ilene Follman
Education Consultant

Tree-Climbing Bicycle

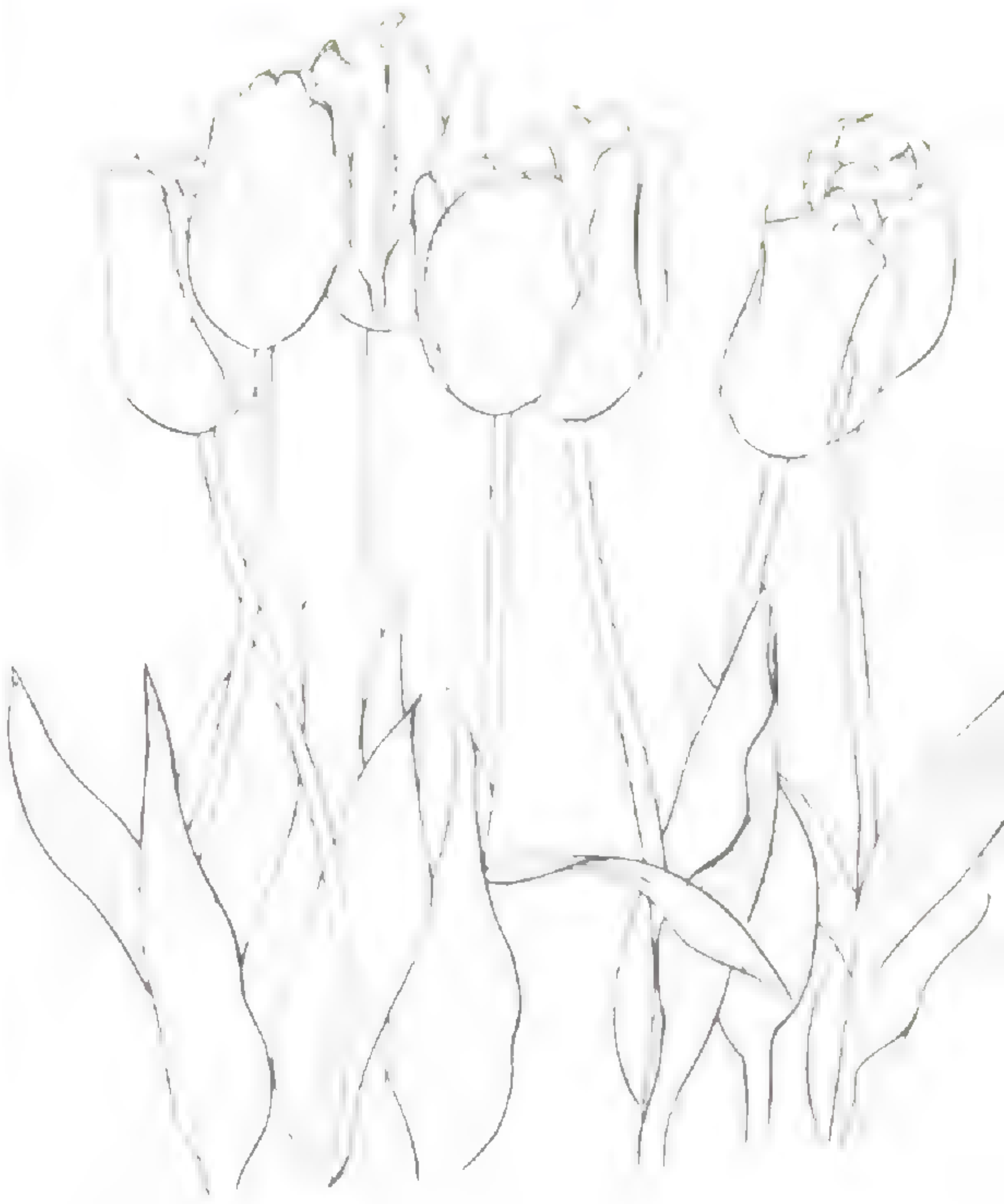
What? A tree climbing bicycle? How do they keep the wheels on the trunk?

Actually, the name "tree climbing bicycle" is what the thing is commonly known as. Its real name is Swiss Tree Gripper, and botanists use it to climb trees to collect leaves and fruits from the tops of very tall trees.

One of these tree climbing bicycles will be demonstrated in the Climatron by Dr. Al Gentry of the Garden's Staff during Science Day at the Garden on June 2.

Come, and bring your parents. They might have fun. (For other information about the day, see p. 12.)

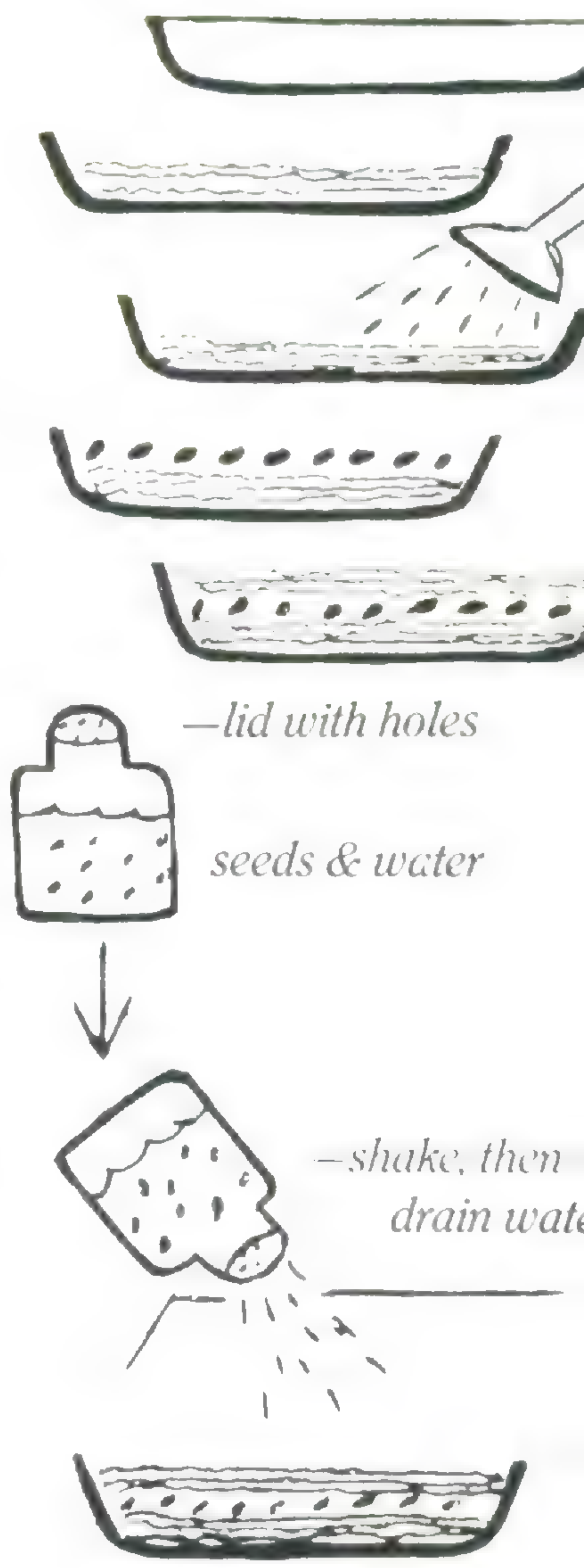
Colors of Spring



The tulip comes in many color from clear white, yellow, orange, an red to rich purple and pink. Som are more than one color. Use you imagination to color these sprin time flowers.

How To Grow Mung Bean Sprouts

1. Start with a low dish, such as a pie plate.
2. Cover the bottom of the dish with layers of paper towel.
3. Wet the paper towel so all layers are moist.
4. Place the seeds on the wet paper towels. Space seeds evenly.
5. Cover the seeds with several more layers of wet paper towels.
6. Let the seeds set for 24 hours.
7. *Note:* Seeds *must* be rinsed with clean water every day. To do this, place the seeds in a glass jar with a lid. Punch holes in the lid. Fill the jar with water. Shake the jar with seeds inside. Then, turn the jar over and drain the water out.
8. Remove the seeds from the jar. Place the seeds back on *clean, new, moist* paper towels in your low dish.
9. Wait! Watch the sprouts grow!
10. After about 3 days, your sprouts will be about 3 inches tall. They will be ready to eat!!!



CALENDAR

April

Spring Flower Show
Orthwein Floral Hall
Through April 8
Spring comes early at the Missouri Botanical Garden. Spring flowers are delight-ully displayed in this major floral show.

Peterson Exhibit
Monsanto Hall
Through April 22
The delicate artistry of Roger Tory Peterson is on display.

Week of the Young Child
Ridgway Center
April 1
Closing ceremonies and activities for the Week of The Young Child.

Lecture Series
Shoenberg Auditorium
April 4-11

Arbor Day
Grounds
April 6
Arbor Day will be celebrated with complimentary trees and a ceremonial tree planting with Mary Institute.

Bible Plants
Mediterranean House
April 7-29
A special display of plants featured in Biblical texts.

Jackson Lecture
Shoenberg Auditorium
April 14
Naturalist James P. Jackson will present a slide lecture on the Meramec and will autograph his new book.

Spring Plant Sale—*Members only*
Orthwein Floral Hall
April 19 & 20
For two days only, a hefty 20% discount on spring plants for members only.

Spring Plant Sale
Orthwein Floral Hall
April 21 & 22
Open to the public for a reduced price on all the beautiful plants you'll need for Spring. Bring your friends.

Easter Egg Hunt
Grounds
April 21
Bring your children to the Garden, where the Easter Bunny has secreted hundreds of eggs.

Carillon Concert & Sunday Brunch
Grounds
April 22
The melodic sounds of Carillon bells will float over the Garden grounds today.

Banks Exhibit
Monsanto Hall
April 28-May 28
To announce the acquisition of a set of the Banks *Florilegium*, an exhibit of "A Flowering of Science: Plants From Captain Cook's First Voyage" will be displayed.

Iris Society Show
Orthwein Floral Hall
April 28
If the Iris is one of your favorites, don't miss this show by the Iris Society.

May

Morning Birdwalk & Breakfast
Gardenview Restaurant & Grounds
May 2
Get up with the birds for breakfast at the Garden, a lecture and birdwalk during he Spring migration.

Music Fest
Ridgway Center
May 2, 9, 16, 23, 30
Fill your Wednesdays with music and the entire month of May with varying concerts at the Garden.

Herb Sale—*Members only*
Orthwein Floral Hall
May 3 & 4
Member's receive extra special discounts on herb purchases.

Herb Sale
Orthwein Floral Hall
May 5 & 6
The herb sale opens to the public.

Children's Day (Japanese)
Ridgway Center & Grounds
May 5
A special preview of the culture of Japan featuring special activities for children.

Carnivorous Plants
Climatron
May 5-27
Always fascinating Carnivorous Plants are on display in the Climatron.

Nature Films
Shoenberg Auditorium
May 8, 15, 22, 29, June 5, 12
Nature films to be announced at a later date.

Valder Lecture
Shoenberg Auditorium
May 11
Dr. Peter Valder makes a special visit to the Garden to talk about the flora of Australia.

Conservation Forum
Ridgway Center
May 11
Continental breakfast with Dr. James Henry Wilson, who will discuss the endangered plants and animals of Missouri.

African Violet Show
Orthwein Floral Hall
May 12 & 13
Well cultivated African Violets will be displayed and judged.

Mother's Day
Gardenview Restaurant
May 13
A special brunch for Mother's Day in the Gardenview Restaurant.

Horticulture Society
Orthwein Floral Hall
May 19 & 20
The best of a variety of plants will be handsomely displayed.

Diment Lecture
Shoenberg Auditorium
May 20
Judith Diment, Botany Librarian with the British Museum (Natural History) will speak on "A Flowering of Science: Plants from Captain Cook's First Voyage 1768-1771."

Rose Society Show
Orthwein Floral Hall
May 26 & 27
The Rose Society Show is always a favorite. Plants will be shown and judged.

Picnic Day
Grounds
May 28
Picnic day at the Garden will feature a special barbeque by reservation only.

Scented Garden Celebration
Grounds
May 28
A very special day when the Scented Garden will show off its new braille labels and wine and music will be on tap. In addition, signed tours of the Garden will be available for the hearing impaired.

Notes from the Garden

Largest Seed in the World Sprouts at Missouri Botanical Garden

The Coco-De-Mer, also known as the double coconut (*Lodoicea maldivica*), has sprouted in the Climatron of the Missouri Botanical Garden (Shaw's Garden). The double coconut is extremely rare in cultivation and this is the only specimen on display to the public in the continental United States.

Bill Wagner, curator of the Climatron, said, "Because the plant is so rare, we have placed a small wire protector over the sprout but it is still fully accessible to public view. In fact, we encourage people to take advantage of this rare occasion to see a really unusual species."

The double coconut palm is naturally distributed only on two very small islands off the coast of Africa in the Indian Ocean. This seed was among 28 which were shipped from the Island of Mahe in 1981 by Paul Hoyer who was working there as a Peace Corps volunteer.

The double coconut palm is very slow growing. Beginning on the parent plant, the nut takes seven years to mature after pollination. When mature, the fruit with nuts enclosed measures eighteen inches and weighs over 10 pounds. After falling from the tree the nut takes up to a year to germinate, and it may take an additional year for the first leaf to appear following germination. The first leaf generally measures nine to twelve feet in length and it produces only about one leaf per year.

The first flowering does not occur for twenty to thirty years. The tree will eventually grow to a height of about 100 feet but it will take nearly 100 years for that development.

Laser Named to Head Education

Kenneth D. Laser

Dr. Peter H. Raven, director of the Missouri Botanical Garden (Shaw's Garden) has announced the appointment of Kenneth D. Laser as Chairman of Education. Laser, who holds a doctorate in Botany from Iowa State University, will assume responsibility for curriculum design and administration of the educational programs.

Prior to joining the Garden, Laser was director of the Science Teacher Preparation Program and associate professor in the Department of Ecology/Evolution at the State University of New York in Stony Brook. He has taught elementary through university level students in both public and private institutions. Laser is currently involved in a teacher training program in Costa Rica, sponsored by the Organization of Tropical Studies of which the Missouri Botanical Garden is a member. Laser's teacher training program has been adopted by the government of Costa Rica for training all existing and future environmental science teachers. He is also the recipient of numerous grants from the National Science Foundation in science education and is widely published in both scientific and educational journals.

In welcoming Laser to the Garden Raven said, "Laser is the ideal candidate for this position as he is both a scientist and an educator. I know that he will carry forward the excellent education programs that are in existence, and will work to expand our programs."

Laser said that he was pleased to be joining the Missouri Botanical Garden and had long respected their programs in science and education.

Working in conjunction with local schools and universities, the Missouri Botanical Garden conducts classes for both children and adults. During calendar year 1983, over 60,000 persons benefited from the Garden's education programs.

Pat Ri

Pat Rich, New Director of Planning and Developmen

Pat Rich has been appointed Direct of Planning and Development for th Missouri Botanical Garden. She serve as a Special Assistant to the Direct from April, 1981, and in that capacity wa responsible for coordinating the cor struction of the Ridgway Center and th other new gardens created in the la three years. Most recently, she has bee involved in the coordination of the Ga den's future planning effort, in which th Garden is reviewing all of its program and services and developing new one

Mrs. Rich came to the Garden fror the Metropolitan Association for Philar thropy, and has also served as Presider of the League of Women Voters in S Louis, and Vice President of the Junic League of St. Louis. She was a pa ticipant in the St. Louis Leadership Pro gram of the Danforth Foundation.

As Director of Planning and Deve opment, she will continue her work in th future planning effort and will als be responsible for development an fundraising and the coordination of th Members' Office.

The Spring Lecture Series, "A Trip Dow Memory Lane," continues in April, wit two lectures. On April 4, Steve Frowine Public Horticultural Specialist, and Pau A. Kohl, a horticulturist on the staff sinc 1920, will present a slide program entitle "Horticultural Displays: An Historica Perspective." On Wednesday, April 1 Robert W. Murch presents "A Fair to Re member," an illustrated visit to the 190 Louisiana Purchase Exposition. Bot programs will be at 10:30 a.m. and 8:0 p.m. in the Shoenberg Auditorium of the Ridgway Center. Admission is free. . .

rbor Day Celebrations at Garden and Arboretum

Since Arbor Day was officially recog- zed in 1886 by the State of Missouir, cit- ens have set aside the first Friday after e first Tuesday in April to plant trees. is year was no exception. With help m many young friends, special Arbor y celebrations took place at the Gar- n, Mary Institute and the Aboretum.

Mary Institute and the Missouri Bo- nical Garden joined forces to com- emorate the 125th Anniversaries of th institutions by planting trees at both cations. The seventh grade students m Mary Institute raised the money to rchase two Adam's Flowering Crab ple Trees. Dr. Peter H. Raven, director the Garden, presided over the planting the Garden, and John Biggs, president the Board of Trustees, joined Allen riance, headmaster of Mary Institute, the ceremony at the school. The sev- th grade class sang the "Tree Song" in nor of the occasion.

The Arboretum celebration was nded by area businesses and the urth grade students from Coleman ementary School helped to plant Dog- ood and Redbud trees during their first sit to the Arboretum. Through the nerosity of the following businesses, oney was also raised to provide for fall plantings at the Arboretum as well: Summit Auto Parts, Uptown Hairstyling, Ltd., Diamonds Restaurant, Wolf Hardware, Pacific Lumber Company, Wal-Mart, Steele's IGA, Probst Oil, J.O.B. Sales & Service, Tri-Country Truck Stop and Restaurant, The Pacific Cobbler Shop, Cal-Gas Company, Brautigam Implement Company, Oliver L. Taetz, Inc., Dr. Elizabeth A. Harvath, D.M.D., Gerald J. Harvath, Attorney At Law.

The Origin of Arbor Day

The tradition of Arbor Day dates back to the early 1850s when Congress first opened the areas of Nebraska and Kansas to settlement. Prior to that time the areas were known as "Indian Country," but once they officially became territories people began moving in, establishing towns and businesses. Among those who decided to seek their fortune in the new country was Julius Sterling Morton. He accepted a newspaper job in Nebraska. Once there, he became acutely aware of the need for trees for windbreaks, shade, erosion control, fence posts, wildlife habitat and other purposes.

Morton started his crusade at home by planting trees and shrubs on his own property and teaching his neighbors the value of trees. He carried his message throughout the area in his newspaper.

As the years went by, Morton became a prominent citizen, held many offices in the territory and was eventually appointed Secretary of Agriculture by President Grover Cleveland. In that capacity, he worked vigorously to urge the government to set aside a day each year for the planting and appreciation of trees.

Finally on April 10, 1872, Morton was successful in establishing the very first Arbor Day. Over one million trees were planted in that one day in Nebraska to commemorate the occasion. Other states soon followed and in 1886 Missouri established its first Arbor Day. Through the hardwork of Julius Sterling Morton, many of the trees that we enjoy today were planted nearly a century ago.

onstance P. Wolf amed Librarian

Dr. Peter H. Raven, director of the arden, has announced the appoint- ent of Constance P. Wolf as Librarian. s. Wolf joins the Garden after nine ears as the director of the library for the niversity of Missouri-Columbia School Medicine at the Missouri Institute of sychiatry, St. Louis.

Ms. Wolf, who holds a master's de- ree in library science from the Univer- ty of Illinois, will be responsible for ad- inistration of the Garden's library which cludes 300,000 items. She is a member the University of Missouri-Columbia, chool of Library and Information cience Advisory Council, and is a past ember of the Executive Committee of e St. Louis Regional Library.

The library at Missouri Botanical Gar- en contains 80% of all published work n systematic botany since the introduc- on of Gutenberg's press. It also boasts ne of the most outstanding collections rare, scientific books in the United tates, including some illuminated anuscripts scripted before the inven- on of the printing press.

Nature Film Series

Beginning May 8, the Garden will present a series of nature films. The five week series will include some of the finest films from the National Geographic Society about the tropics. Because of the Norman Myers lecture on May 29, there will be no film on that day. All films will be shown at 10:30 a.m. and 8:00 p.m.

8 May *The Garden of Eden*—importance of genetic diversity using the example of corn; presents an argument for protecting ecosystems containing a great diversity of organisms, especially where endemism is also great. Peter H. Raven, the Garden's Director, will introduce this film and open the series.

15 May *The Living Sands of Namib*—National Geographic Society film about the Namib desert and the creatures adapted to live in its inhospitable environment.

22 May *Rainforests*—National Geographic Society film about the diversity of life in the Costa Rican moist tropical forest, including a conservation message.

5 June *Island of the Moon* (tentative, pending confirmation from Bob Sussman)—A Canadian Broadcasting Corp. film about diversity of lemurs in Madagascar, the only place where these primates live in the wild.

12 June *Etosha: Place with Dry Water*—National Geographic Society film about a salt-encrusted lake bed in SW Africa and the large animals that survive the harsh season of drought.

***The Spring Flower Show**, one of the Garden's most popular and spectacular exhibits, continues in the Orthwein Floral Hall until April 8.*

Recipes from the Golden Era

The Henry Shaw House Cookbook: A C lection of Choice Recipes from a Gold Era of St. Louis Living features 350 re ipes, from soups and salads to fish, fo and beef main dishes. There are al sections on beverages (with a centu old egg nog recipe, as well as one refreshing, home-made soda popular the 1890s), breads (including a recipe Shaw's housekeeper of nearly half a ce tury, Mrs. Edom), household hin (there's even one from Mrs. Edom or concoction to remove wrinkles in ga ments), and cooking with flowers (ho does a nasturtium sandwich soun With cream cheese and mustard, i quite good.)

The cookbook also contains ane dotes of Shaw's life and of the Victoria age (there's even a brief account of a p nic that Charles Dickens had with Hen Shaw and eleven other prominent S Louisans). The book is spiral bound, 2 pages long, and has a sturdy, wate resistant cover. It is available both Tower Grove House and from the Garde Gate Shop for $14.95. Members receive ten percent discount. During the Sprin Plant Sale in mid-April, as on all me chandise in the Shop, Members will r ceive a 20% discount on the cookboo

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On June 2, from 10 a.m. until 3 p.m., the Missouri Botanical Garden will sponsor a Botany Field Day throughout the Garden grounds. The day's activities have been planned to acquaint visitors and Members about the important scientific work conducted by the Garden. There will be exhibits and tours of the herbarium and library that will give visitors the opportunity to see areas of the Garden not normally shown to them.

Special displays in the Climatron will call attention to the many different kinds of plants studied by the Garden scientists, and the Garden Gate Shop will offer some beautiful and informative books about the tropics and the work going on there. . . . .

Harriet Bakewell, who has, literally, had ties to the Missouri Botanical Garden for her entire life, was recently named a Fellow of the American Society of Landscape Architecture. The honor is a rare and high one; while there are more than 15,000 members of the Society, there have only been 192 named as Fellows; only 14 of those are women.

The title is given only to those individuals who have made outstanding contributions to the field, either through the high quality of their work or in service to the society.

Mrs. Bakewell's connection to the Missouri Botanical Garden began when she was very young, since her father, George Moore, was appointed Director of the Garden in 1913; he was the second Director, following William Trelease, and he served in that capacity for longer than any other Director, not retiring until 1953, or after forty years of service.

Several of the Garden's most popular features bear Harriet Bakewell's mark; she worked closely with Japanese Garden designer Koichi Kawana on the creation of that Garden. She was also involved in the design and planting of the Anne L. Lehmann Rose Garden. . . . . .

The work of Roger Tory Peterson, who recognized internationally for his fie guides and the beauty and accuracy his paintings of birds, will be featured the Ridgway Center of the Missouri B tanical Garden until April 22. . . . . . .

This spring, the Members of the Missou Botanical Garden will have the opport nity to participate in a special and excitin trip to Italy. The 15-day tour will be led Alan Godlewski, Chairman of Horticu ture, and will leave St. Louis on April 2 It returns on May 14. Participants on th tour will see the splendors of Rome, an walk in the footsteps of Caesar; they see Florence and Venice and the plac that inspired the greatest artist of all tim The tour will visit gardens and villas an will also feature many areas not ordina ily open to the public. In addition, sever of the distinguished owners of thes villas have extended gracious invitation for cocktails and dinner.

Reservations are limited and may b made by calling Judy Peil at 726-257

Norman Myers, author of *The Sinking*
k and considered to be one of the most
quent and brilliant spokesmen on the
portance of species diversity and the
gedy of extinction, will present a lec-
e entitled "Tropical Forests and Our
mmon Future" on May 29 at 8:00 p.m.
he Shoenberg Auditorium of the Mis-
uri Botanical Garden. . . . .

e 30th annual African Violet Show will
held in the Orthwein Floral Hall of the
ssouri Botanical Garden on Saturday
d Sunday, May 12-13, from 9 a.m.-7:30
n. The Theme for this year's show is
olets on the Great River show." . . . .

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Garden Gate Shop

Oh, do we have specials . . .

The Garden's annual spring plant sale opens to Members only on Thursday, April 19 and Friday, April 20. All Garden Members will receive a 20% discount on all purchases of merchandise in the Garden Gate Shop and the Orthwein Floral Hall. For the first time, this discount applies to more than just the mammoth selection of plants you are used to being offered during our spring sale, but includes the fine selection of gifts, books, prints, and china in the shop.

During the sale, we will be offering a large selection of both flowering and vegetable bedding plants; scented, rosebud, and bedding geraniums; bulbs and perennials for spring planting; and many tropical plants including new and exotic hybrids.

As always, we will also feature the finest in crafted Smith and Hawkins tools from England.

For rose lovers, we will present All American Rose Selection Winners, including Olympiad, the official rose of the 1984 Olympic Games, and two new hybrid teas, Almadeen and Patsy Cline.

The shop is also looking into some new disease resistant varieties of dwarf fruit trees that we hope to offer to members for the sale.

The sale will be open to the general public on Saturday and Sunday, April 21 and 22. . . . .

The spring Herb Sale is set for May 3-6, with Thursday and Friday, May 3-4, being set aside for Members only; as during the spring plant sale, Members will receive a 20% discount. There will be thousands of herbs featured, including many new and interesting varieties. Bay trees, much in demand during previous herb sales, will be available.

The featured attraction will be a beautiful old-fashioned rose in celebration of the Garden's 125th anniversary: the everblooming, multiflora "Nearly Wild." . . . .

The Garden Gate Shop is the place to shop for Easter. There will be colorful baskets, magnificent flowering plants, and miniature roses. And rabbits everywhere. Yes, rabbits. Charming plush bunnies in their own carrying cases, beautiful German-crafted wooden rabbits, and also ceramic rabbits.

The shop also has a variety of terra cotta planters for your terraces, wrought iron plant stands, and mobiles of all kinds—brass, acrylic, ceramic, and glass.

Of course, the shop's attention focuses on gardens and gardening, and the book department is full—vegetable garden books, flower garden books, patio design books, cookbooks. . . . .

Wildflowers and birds—two true signs of spring. No matter the level of your interest—if you are the slightly curious about the birds or wildflowers you see on your spring drives or walks, or the serious amateur birder or botanist—you'll find the selection of books about these two subjects in the Garden Gate Shop is the most complete in the area. There are the classic Roger Tory Peterson field guides, and the highly praised Audobon Society books for the bird lover (as well as some others that are truly outstanding for the beauty of their illustrations and the completeness of their texts), and the standard books about our native wildflowers, including Erna Eisendrath's *Missouri Wildflowers of the St. Louis Area,* and the critically acclaimed *Where Have All the Wildflowers Gone?* . . . .

Members' Days, April and May

During April and May, there are four Members' Days scheduled. On **April 14**, the Master Gardeners will host a "Plant Information Center" from 10 a.m. until 2 p.m., and will be available to answer your gardening questions. David Vismara, the Garden's Rosarian and a judge for the All-America Rose Selections honor, will demonstrate and discuss rose care on **April 26**, in a program entitled "How to Plant a Rose." On **May 9**, Members are invited to tour the English Woodland Garden, led by Mick Knobbe, Curator of that Garden, at 11 a.m. (Reservations for the tour are required and may be made by calling 577-5186.) Sunday, **May 20**, is Camera Day for Members. The Garden will open at 5 a.m. that day so that Members will have the unique opportunity to capture the Garden at sunrise.

Effective immediately Shaw Arboretum is changing its hours of operation. The new hours are 7:00 a.m. to ½ hour past sunset daily. The previous hours had been 8:00 a.m. to 5:00 p.m. . . . .

Increased Support

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Tributes
January-February 1984

IN HONOR OF:
Mr. and Mrs. Harrison Brockmeie
Miss Gerry Barnholtz
Tom Croat
Associated Garden Clubs of Clayton
Mrs. David Ferer
Mr. and Mrs. Harold Lewin
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Mrs. Ben H. Senturia
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Mrs. Florence Husch
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Mr. and Mrs. Sol Morton Isaac
Mr. and Mrs. Lester Adelson
Charles Iselin
Mr. Wayne Page
Mr. Maurice R. Wilson
Mr. Jack Jennings
Fleur de Lis African Violet Club

(continued on next page)

Sponsoring Members
Mr. and Mrs. Charles S. Drew, Jr.
Mr. and Mrs. Henry I. Marder

Gardening in St. Louis *(continued from page 5)*

Crab, Plum, Redbud, Dogwood (Deciduous-Ornamental)

White Angel Crab—*Malus* 'White Angel' (height to 20 feet) White blossoms in early spring, followed by ruby-red berries that last into winter months.

Donald Wyman Crab—*Malus* 'Donald Wyman' (height to 20 feet) Single pale pink blossoms followed by small, red fruit.

Purple Leaf Plum—*Prunus cerasifera* 'Thundercloud' (height to 25 feet) This purple leaf plum adds contrast with its deep-purple foliage. Pink blossoms in early spring followed by bright red fruit.

Redbud—*Cercis canadensis* (height to 36 feet) Good tree to be used as a specimen or as a high point in a shrub border. Branches are covered with small pink blossoms before foliage comes out in spring.

Flowering Dogwood—Pink and White—*Cornus florida* (height to 40 feet) Low-growing and colorful in the lawn. Pink or white blossoms in spring.

Japanese Dogwood—*Cornus kousa* 'Milky Way' (height to 21 feet) White blossoms open about 3 weeks after flowering dogwood.

Shrubs

(Evergreen)

Pyramidal Arbor-Vitae—*Thuja occidentalis* 'Techny' (height to 25 feet) Beautiful columnar shape. Excellent for accent planting, entrances or a fence.

Baker Arbor-Vitae—*Thuja orientalis* 'Baker' (height up to 10 feet) A striking evergreen which is compact and pyramidal.

Dwarf Alberta Spruce—*Picea glauca* 'Conica' (height to 6 feet) Compact, slow-growing pyramidal tree. The foliage is light-green and dense.

Upright Yew—*Taxus cuspidata* 'Capitata' (height up to 50 feet) Good for hedge. Deep-green needle foliage.

Keteleer Juniper—*Juniperus* 'Keteleeri' (height up to 12 fe Broad, pyramidal tree. Stiff trunk and medium-green foliag

Spartan Juniper—*Juniperus* 'Spartan' (height up to 12 feet) fast, dense grower with a pyramidal shape.

Hedges

Russian Olive—*Elaegnus angustifolia* (height to 20 feet) Silv color. Useful as a windbreak or hedge.

Van Houtte Spirea—*Spiraea* x *vanhouttei* (height to 8 feet) O of the most popular plants; makes a beautiful screen hedge. Blooms in May and June. Flowers are white.

Arbor-Vitae—*Thuja* spp. (height varies) Hardy plant. As hedgi is effective sheared or natural.

Junipers—*Juniperus* spp. (height varies) Varieties of *Juniper chinensis* are excellent evergreens for year-round color. Th lend themselves to natural-form edging borders and hedge

Viburnums—*Viburnum carlesii, V.* x *juddii, V. tomentosu* 'Mariessii' (height varies) A group of attractive shrubs whic has interesting blossoms and foliage.

Hicks Yew—*Taxus* x *media* 'Hicksii' (height to 40 feet) A favori evergreen hedge material that grows in an upright, column form.

Tartarian Honeysuckle—*Lonicera tatarica* (height to 9 feet) Or of the best ornamental shrubs because of its vigorous, attra tive growth and its colorful flowers and fruit.

Border Privet—*Ligustrum obtusifolium* (height to 7 feet) An e cellent screen or background plant.

Japanese Barberry—*Berberis thunbergii* (height to 7 feet) Po ular for hedges and barriers.

Scarlet Firethorn—*Pyracantha coccinea* (height to 18 feet) Use as informal hedge and barrier plant. Attractive orange berrie Choose hardy, fireblight-resistant cultivars such as 'Rutge and 'Mohave.'

Tributes *(continued)*

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Mr. and Mrs. Carl Kottmeier

Mrs. Alice Levy
Mr. and Mrs. Lester Adelson

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Nancy Craig

Dr. Elizabeth Cross
Mr. and Mrs. Lawrence E. Stout, Jr.

Mr. Lawrence Cutler
Mr. and Mrs. Lester Adelson

Mrs. Joan Dawson
Mr. Stephen P. Mullin

Mr. Fred Deibel
Mr. and Mrs. C. Robert Pommer

June Kramer Drum
Tom and Lucy McReynolds

Mr. John Dunne
Clayton Garden Club No. 4

Mrs. Ernest Eddy
Mr. and Mrs. George T. Pettus

Dorothy R. Eickes
Frances Bergmann
Marilyn and Art Boettcher

Pauline Young Finn
Mr. and Mrs. William Robert Bard

Brig. Gen. (Ret.) Harold F. Funsch
Maurine Inghram
Mr. and Mrs. Ralph L. Smith

Mrs. Elizabeth D. Gardner
Aragon Public Relations, Inc.

Mrs. Norma Hermann Gerhart
Miss Ruth Breckenridge
Mr. and Mrs. C. Robert Pommer
Otway W. Rash Family
The Ladue Garden Club
Mr. and Mrs. Rolla K. Wetzel

Esther Gimblett
Mr. and Mrs. Arthur Cooper, Jr.

Susan Frost Grummann
Jerome A. Gross

Helen Hanser Hallauer
Tom and Lucy McReynolds

Mrs. Grace A. Henderson
Mr. and Mrs. James N. Holsen, Jr.
Mr. and Mrs. William S. Knowles
Darragh and Anne Mitchell

Daisy Henry
Mr. and Mrs. Warren Glickert

Mrs. Lillian Hood
Mrs. Charles M. Copley, Jr.
Mr. and Mrs. Robert K. Norman
Margaret Robertson
St. Louis Chapter No. 14 NAWCC

Mr. Milton H. Johnson, Sr.
Mr. and Mrs. Alex Armstrong
Mr. and Mrs. Arthur Bond
Mrs. Charles K. Hafling
Dorothy and Harold Hanser
Mr. and Mrs. D. B. Jeffery
Mr. and Mrs. Robert A. Latta
Mr. and Mrs. Clarence A. Muhl
Mrs. Carl Otto
Mrs. William I. Pixley
Mr. and Mrs. Charles Rose
Mr. and Mrs. Duane St. John
Mr. and Mrs. Jack Schaper
Mrs. Felix Truss
Vi-Jon Laboratories, Inc.
Mrs. Rolla B. Wetzel

Mr. James W. Kerley
Mr. and Mrs. Peter H. Husch

Mrs. Lawrence Keyes
Mrs. Samuel F. Gordon

Mrs. Vicky Koury
Mrs. Stephen P. Mullin

Mr. Raymond E. Lange
Mrs. Raymond E. Lange

Nelson Lawnin
Mrs. Estelle L. Bliss

Anne T. Locker
The Grass Roots Garden Club

Mrs. Warren Lonergan
Sowing Circle Garden Club
Willow Creek Garden Club

Mr. Sheridan K. Loy
Patti L. Baur
Mrs. Estelle L. Bliss
Mrs. John R. Brightman
Mrs. Charles Todd Clark
Mrs. Dwight W. Coultas
Mrs. Edward A. Cox
Mrs. Henry P. Duncker
Mrs. Jerome F. Kircher, Jr.
Mrs. Raymond E. Lange
Manufacturers American Bank, Directors, Officers and Employees
Mr. Erwin M. Meinberg
Joan, Tim and Ruel Murphy
Mr. and Mrs. Parker H. Nichols
Mr. and Mrs. Thomas O. Patterson
Dr. and Mrs. Joseph C. Peden, Jr.
Dr. Leo S. Shanley
Mrs. Hermann Spoehrer
Mrs. Teddy H. Stauf
Carl Swinburne
Mr. and Mrs. William M. Van Cleve
Mr. and Mrs. James E. Russell
The Weston Paper and Manufacturing Co.

Raymond J. McAboy
Mrs. A. G. Mungenast

James Austin McDaniel
Winifred Krughoff

Mrs. Robert McRoberts
Mr. and Mrs. Louis R. Putzel

Brian and Betty Matheny
Mrs. Arline Lay

Mrs. Betty Matheny
The Garden Guides

Mr. Carol E. Miller
Mr. John J. Miller
Union Electric Company
Veterans Association of Union Electric

Mr. Paul S. Miller
Mr. and Mrs. Farrel Miller
Jeanne, Lisa and Stuart Montaldo
Mr. and Mrs. Vernon W. Piper
Mr. and Mrs. Harold W. Wiese

Alex B. Morris
Mrs. Florence M. Forbes

Frank E. Morris
Bert and Janet Lynch

John F. Morris
Mrs. Florence M. Forbes

Mr. Carl Munson
McDonnell Douglas Corporation

Mr. Robert Otto
Mrs. Samuel F. Gordon

Mr. Charles W. Owen
Mr. and Mrs. Michael P. Richmond

Clara Plass
Miss Elizabeth Goltermann

Mary Kathleen Roesler
Mr. and Mrs. George L. Lisle

Mrs. Jessie Ruth Root
Miss Marian Barnholtz

Dr. Lewis James Rossiter
Mr. and Mrs. Richard Crowell

Mrs. Stella Ruth
Mr. and Mrs. K. F. Sherman

Hubert Sandefur
Mr. and Mrs. Wm. W. Jeremias

Mr. Al Schmidt
Mr. and Mrs. Albert C. Grimm
Mrs. Robert Wehmueller

Mildred Schroeder
Mrs. Elizabeth Branneky
Founders Circle, Rosemary Garden Club

Mrs. Ida A. Schultz
Mr. and Mrs. C. C. Johnson Spink

Mr. Jack Sparks
Mr. and Mrs. Phillip Schreiber

Mary Speed
Mr. and Mrs. F. Paul Rudolph

Mrs. Carol Strandberg
Mr. and Mrs. Phillip Schreiber

Mr. John W. Studt
Mr. and Mrs. Alexander M. Cornwell, Jr.
Mrs. William W. Crowdus
Mrs. Robert H. Davidson

Virginia Fischer Summers
Mrs. Lorena Kitchin

Mrs. Doris Vincent
Dorothy Becker

Miss Viola Vogel
Miss Caroline R. Baltzer
Mr. and Mrs. Richard F. Decker
Edna I. Wilton

Mrs. Eloise Warren
Mr. and Mrs. Carroll E. Nelson

Mr. Philip Weissman
Mr. and Mrs. Charles J. Cook

Mrs. Mattie Welsh
Mr. Jim Moore

Mr. Adrian Winstead
Mr. Jim Moore

Mr. Victor Wisor
Mr. Jim Moore

Kath Wyatt
Nancy Buchanan

Ah, Spring. Spring.

Forget everything about the snows and the cold, and concentrate on the warming of days, the buds resurgence, the leafing of trees. Come to the Garden . . . Arbor Day . . . Easter Egg Hunt . . . Carillon Concert . . . Spring Plant Sale . . . Iris Show . . . Mothers' Day . . . or any of the more than three dozen events we have planned in the next two months—or just to visit and walk the woodland garden or the Japanese Garden, or, for the best reason of all—just because.

Hours
April 1-30: 9 a.m.-4:30 p.m.
After May 1: 9a.m.-7:30 p.m.

Watch for the Japanese Festival, coming June 16.

MISSOURI BOTANICAL GARDEN BULLETIN (ISSN-0026-6507)
P.O. Box 299
Saint Louis, Missouri 63166

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1859 • 1984
125th
Anniversary
Missouri Botanical Garden

MISSOURI BOTANICAL GARDEN BULLETIN

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983

OLUME LXXII
UMBER 3
AY 1984

FROM THE PRESIDENT

Last year, 1983, was one of the most significant in the entire 125 year history of the Missouri Botanical Garden. On April 5, voters in both St. Louis City and St. Louis County approved a measure that created the Botanical Garden Subdistrict of the St. Louis Metropolitan Zoological Park and Museum District. Through the Subdistrict, the Garden will now receive a portion of its operating revenue from district tax support. Until this time, the Missouri Botanical Garden was the only major botanical garden in the world which was not substantially supported by a direct tax.

The measure approved by voters calls for a property tax of up to four cents per one hundred dollars of assessed valuation and will provide an estimated $2.5 million annually for the Garden.

This event is the single most important achievement, after the founding of the Garden in 1859, in our history. It is significant for several reasons, but I think there are two which stand above any others.

The first of these is the most obvious, that is the financial support the Garden will now receive. The entire history of the institution has been one of growth and of excellence of service, but during the last decade especially the number of our educational and visitors programs has increased tremendously. In 1983, during which more than 60,000 students participated in our classes and workshops, we served nearly 60% more people than we did in educational programs in 1978, just five years ago. Likewise, the rise in our attendance was equally as dramatic during that time. These increases did not happen on their own, but rather in response to our programs. Much of the growth during 1983 can be directly attributed to the fact that it was the first full year of operation of the Ridgway Center, our magnificent new visitor and education facility.

We were, however, rapidly reaching the point at which our financial resources would not be sufficient to meet the continually increasing demand for our classes, lectures, horticultural displays, and information. We were faced with the very real possibility of cutting back what we offered. It was ironic that, if we were forced to make these cuts, they would come at a time when more people wanted our services. But with the revenue from the Subdistrict, we shall not only be able to continue to provide the high calibre of programs that the people of St. Louis have come to expect from us, but we shall be able to offer new and different programs as well.

The second reason that the establishment of the Subdistrict was so significant was that it demonstrated very concretely that the community valued what we provided. Their approval of the measure, which meant that they were agreeing to an increase in their property taxes, is even a more profound endorsement when we consider that almost no other tax increases are being approved anywhere in the U.S.

In their approval of the measure which created the Subdistrict, and of the measures that provided support for three other St. Louis cultural institutions, the Zoo, Art Museum, and Science Museum, the people of St. Louis have shown a true regard not only for the institutions, but also for the cultural life and future of the city and county.

As trustees and staff of the Missouri Botanical Garden, and also as residents of the community, we are sincerely appreciative of this regard, and are pleased to present the following annual report.

Johnson Spink

– C. C. Johnson Spink
President, Board of Trustees

FROM THE DIRECTOR

The establishment of the Botanical Garden Subdistrict of the Zoo Museum District comes at a significant point in the Garden's history. While we are preparing to celebrate our 125th anniversary in 1984, we have been presented with the opportunity to enrich our future.

Anniversaries are traditionally a time of looking at the past and noting the events that shaped us and made us what we are. We shall of course be doing this. But the establishment of the Subdistrict means that, at the same time we are considering the last century and a quarter, we shall also be seriously contemplating the future.

During the campaign leading to the creation of the Subdistrict, we made a number of promises to the people of St. Louis. They were not made idly, and the next few years will be a time of meeting those obligations.

One of the most obvious of these was the reduction of our admission fee. On June 1, we lowered the cost of admission for adults from $3.25 to $1; we also opened the Garden at no charge, for all visitors, on Wednesday, Thursday, and Saturday mornings. We established this new admission policy actually before we began receiving support through the Subdistrict, but we were anxious to show our gratitude to the voters of St. Louis.

We also made sincere commitments to provide education and to make our great resources in horticulture and gardening information available. We have been doing this throughout our history with what we think is tremendous success, but our efforts will now be increased. We are currently soliciting comments from the community regarding the programs and displays we offer, and asking for suggestions from them as to other types of programs they would like to see from us.

This interest in the ideas of the people of St. Louis is not new for us. We have always listened carefully whenever anyone has offered comments, praise, and criticism for o work. Our principal tenet, even from the moment the Garden opened on the morning of June 15, 1859 (and even before that formal opening), ha been that the Garden would exist for the enjoyment of everyone who visite or required whatever service we coul give.

But if we have been open to ideas i the past, we shall be even more so now. In creating the Botanical Garde Subdistrict, the people of St. Louis have shown a confidence in the Garden, a confidence we take very seriously.

Responding to their endorsement i 1983, in addition to reducing our admission fees, we initiated several new programs and greatly enhanced some that we have been offering for a number of years and which, we learned, the community considered very important.

Our Answer Service, now twenty years old, and our regular Plant Clini continued to help gardeners and plan lovers to solve the many problems the encountered. Our public horticultural program, just a little more than a yea old now, came to be recognized as a vital source of information for the public as well as for newspaper, radio, and television journalists. We are presently the only botanical institutio in the country with such an extensive public horticultural program.

Mr. Spink has already described the growth of our formal educational programs, but in fact everything that the Garden does has some element of education in it, including the many horticultural and floral exhibits we stage each year, because through them visitors can learn of the importance of plants to human life.

[illegible]

[illegible]

[illegible] United States.

[illegible]

Peter H. Raven

Peter H. Raven
Director

RESEARCH

Early in 1983, the Research program at Missouri Botanical Garden reached a significant milestone when it accessioned its three millionth herbarium specimen. The Garden has the third largest collection of documented, dried plant specimens in the United States and ranks about fifteenth largest in the entire world. It continues as one of the most active herbaria in the world, and its excellence and activity in neotropical and African collections are well known. During 1983, the collection was cared for by a staff of more than thirty full or part time technicians and twenty-two Ph.D. staff members.

Last year the Garden acquired about 56,750 specimens through gifts, purchases and exchange, and nearly 30,000 numbers were collected by staff botanists. The number of specimens mounted in 1983, 72,344 was almost 20% greater than that mounted the previous year. The increase was due in part to the addition of another full-time plant mounter and to improved mounting techniques.

Also during 1983 about 90,500 specimen labels were produced, 77,000 of them using the Garden's mini-computer. A larger computer will be installed in the Botany Department itself, and the label producing process will be transferred to that computer in 1984. Because the label information is stored, it can be used for producing a variety of reports which will greatly help the research efforts at the Garden.

One of the research functions is to provide determinations of plants collected for many kinds of studies. About 20,000 specimens were received in 1983 as gifts for determination. The studies included floristic inventories, ethnobotanical and zoological studies and ecological studies.

In order to increase the use of the collection by botanists who wish to identify local plants, a Missouri Illinois reference collection was begun and is now nearly completed.

In order to insure consistency of procedures, a detailed guidebook was written covering every aspect of work in the herbarium. This guidebook is the basis of guides to procedures at MO that have been given to curators of other institutions. Pamphlets intended to help visitors using the herabrium and to insure proper handling of specimens were written in English, French, Spanish and a version in Mandarin is being prepared. Requests are received from students and professionals locally, nationally, and from abroad for training and curatorial techniques. Programs have been designed to suit both short- and long-term herbarium trainees.

In 1983 the Garden organized the second Herbarium Curator's meeting at the annual meeting of the American Institute of Biological Sciences and, in association with the Botany Department of the Smithsonian Institution, organized a third Curator's meeting at the annual Systematics Symposium held at the Garden. Both of these meetings were very successful in that many ideas about curatorial problems and solutions were exchanged.

Increased use of the collection through increased loan activity has been one of the stated goals of the herbarium. The goal is clearly being achieved as 45,813 specimens were sent on loan in 1983, an increase of 61% over the number sent in 1980

[illegible]

EDUCATION

During 1983, more people than ever before turned to the Garden for its education programs. The 63,467 [illegible] participated in classes and workshops here represented a 23% growth over the number of students during the previous year, and an even more impressive growth of [illegible] over the number of students coming to the Garden in 1980. Since the first year of the decade, (over the last four years) nearly 200,000 students have participated in courses at the Garden.

This remarkable response is an extremely positive endorsement of our [illegible] both by staff and volunteer instructors, to provide a high standard [illegible] adult, family, and children's [illegible]ties in horticulture, natural history, arts and crafts, and botany.

[illegible] the number of students participating directly in programs here is only part of the measure of our success. Through programs [illegible] teachers and community leaders, and through the Teacher Resource Center [illegible]es materials and literature [illegible]ble to educators, the Gard[illegible] [illegible]cational resources were mad[illegible] [illegible] students of all ages.

[illegible] programs [illegible] environmental educati[illegible] leadership training pro[illegible] school students) continued to [illegible] acknowledgements as an outstand[illegible] [illegible] The National Science Teachers Association cited it as [illegible] model programs in the United States in the *Search for* [illegible]

Another [illegible] Master Gardener Program, cosponsored by the University of Missouri Ext[illegible] Service, also had a pr[illegible] the community. Throug[illegible] superior amateur [illegible] Garden is able to provid[illegible] highly qualified [illegible] groups and [illegible] area and prese[illegible] workshops on gardening and horticulture. The Master Garde[illegible] also presented a number of pr[illegible] at the Missouri Botanical Garden including a series of Walk-in Plant Clinics in the Ridgway Center [illegible] the summer. The Cli[illegible] opportunity for Ga[illegible] receive som[illegible] problems and answers to questi[illegible] a range of subjects includ[illegible] fertilizers, and pest and weed con[illegible]

EDUCATION

[illegible]

[illegible]

[illegible]

[illegible]

DISPLAY

Perhaps the most significant achievement for the Garden in the area of display during 1983 was the selection of our Anne L. Lehmann Rose Garden as the All America Rose Selections Public Rose Garden of the Year, meaning that our garden was considered the finest public rose garden in the entire United States. This was a tremendous accomplishment and a tribute to all of our staff and volunteers who put thousands of hours into the development and tending of the garden. It was also a tribute to the Garden's long-time friend and supporter Anne L. Lehmann, in whose honor the rose garden is named. Another generous gift from Anne L. Lehmann, in memory of John S. Lehmann, made possible the addition of a wonderful collection of old-fashioned and shrub roses and a new path.

Last year was also notable for many other successes. A number of gifts enabled us to diversify and improve our landscape features throughout the entire grounds. Among these was the refurbishment of the rock garden on the north side of the Mediterranean House in memory of Audrey Heckman, made possible by a gift from William G. Heckman. There is now a display of a variety of perennial plants with a large display of species tulips.

We continued expansion of the English Woodland Garden, which was begun in 1982 as the Edward G. Cherbonnier Memorial, a gift from his children and friends. There will be an even more diverse and expanded number of perennials, especially those that are successfully grown in the shade.

In fact, since shade is a major consideration for growing conditions for St. Louis gardens, we developed another garden which features hostas the principal shade-loving perennial. The Hosta Garden, which was dedicated in the Spring of 1983 in memory of Marie Schaeffer Schields, being enriched with plantings. Through the generosity of Mr. and Mrs. Thomas W. Shields, it will displa ten different species and more than 1 cultivars of hosta, along with a numbe of early spring bulbs and other companion plants.

A lovely garden walk was constructed from the Swift Family Garden to the lily pools in front of th Climatron with the assistance of Mr. and Mrs. Hampden M. Swift.

The last project which we began during 1983 was the construction of an Iris Garden in memory of Alice Hahn Goodman west of the historic Flora Gate. This garden which was made possible by a gift from Stanley Goodman, will quickly become one of the finest such gardens in the country and will feature an interesting array o species. It will include many outstanding hybrids of Iris, considere to be one of the queens of any spring garden.

During 1983, we also continued to offer the wide range of floral exhibits in Orthwein Floral Hall for which the Garden has become world famous during the last century and a quarter In addition to our major spring, fall, orchid and holiday plant shows, we also staged a number of very interesting and educational exhibits o bonsai, Ikebana, carnivorous plants, ferns, food plants, and African violets

Through the generosity of many people, 1983 was a year that brought significant changes in our gardens which will be enjoyed for many years into the future.

Alan P. Godlews

Chairman of Horticultu

COMMUNITY

The success of the Missouri Botanical Garden at the polls in April, 1983, when the voters of St. Louis City and County established the Botanical Garden Subdistrict of the Zoo-Museum District, was indeed a rewarding endorsement of our work toward fulfilling the Garden's commitment to serve the public.

As part of that work last year, we continued providing horticultural advice through our Public Horticulture Specialist and his appearances, both in public and on radio and television, and the weekly columns that were published in the *St. Louis Post Dispatch*. Our Master Gardener Program, in its first full year of operation, also enhanced our effort of making the Garden's resources and expertise more accessible to the residents of the St. Louis area. Volunteer Master Gardeners, certified through the rigorous training program, presented programs at the Garden and throughout the metropolitan area at shopping centers and malls, schools, retirement homes, and meetings.

Our Answer Service, in its 20th year, continued to respond to the more than 12,000 inquires it receives annually concerning gardening, landscaping, lawn, and houseplant problems.

As a direct result of the creation of the Botanical Garden Subdistrict, the Garden became open to even more visitors during the last half of 1983 when, on June 1, we drastically reduced our admission rates as well as providing free admission to the Garden for all on Wednesday, Thursday and Saturday mornings. For adults admission dropped from $3.25 to $1; children ages 13-15 are charged only 50¢. In addition, children under 13 and adults over 65 are now admitted free at all times. Nearly 65,000 children and senior citizens came to the Garden, free of charge, between June 1 and the end of the year. This accounted for almost 15% of the Garden's total attendance for the entire year.

In all, 542,000 people visited the Garden during 1983, representing an increase in general attendance of more than 10%. Attendance at the Shaw Arboretum was 17,486.

Another increase with which we were very pleased, was the ten percent rise in our total Membership. At year end, the Garden had 16,796 members, meaning that we still had the largest membership of any botanical garden in the world.

As we continue to test the range of the Ridgway Center as an exhibit facility, we also presented many shows you would not necessarily expect to find in a botanical garden. Among these was Calder in Retrospect, featuring the work of Alexander Calder, one of America's premier sculptors. Presented in cooperation with the Greenberg Gallery of St. Louis, it was the first major St. Louis showing of the late artist's work in twenty years.

The Garden held its eighth Japanese Festival, one of the principal events of the summer in St. Louis, and which was attended by nearly 50,000 persons during its week-long program of activities.

The Garden also presented its annual Fall Craft Fair, an exhibit of Boehm porcelain sculpture, many films, plays, concerts, and readings of literature.

- The Garden remained a very active member of its neighborhood, and continued to work for the redevelopment of the historic buildings in the Shaw Neighborhood through St. Margaret's Housing Corporation, an organization that has been essential to making the neighborhood one of the most strongly redeveloped areas in the entire city of St. Louis.
- Volunteers are one of the Garden's greatest assets, assisting in all areas of the Garden's operations from organizing the highly successful benefit, to tending the grounds, to repairing books in the library, to clerical work in the Garden's administrative offices, to serving on the Garden's Board of Trustees and the Executive Board of the Members. In all, more than 512 persons gave 19,000 hours of their time as volunteers during 1983

- During the year the Garden continued to provide its gardens, the Ridgway Center and [illegible] Building as facilities for community events and private parties and receptions. Groups ranging from a dozen people to several hundred used the facilities. A total of [illegible] individuals attended these functions.
- Garden horticulturists and volunteers continued the highly successful and popular program in which the Garden provided advice and equipment to groups in planting community gardens. [illegible] communities [illegible] in the [illegible] area.

- The [illegible] Fund, which [illegible] the [illegible] has raised money to support other programs [illegible]. More than [illegible] was contributed to the fund during [illegible].

— Richard H. Daley
Director of Public Programs

— Patrick L. Ross
Director of Planning and Development

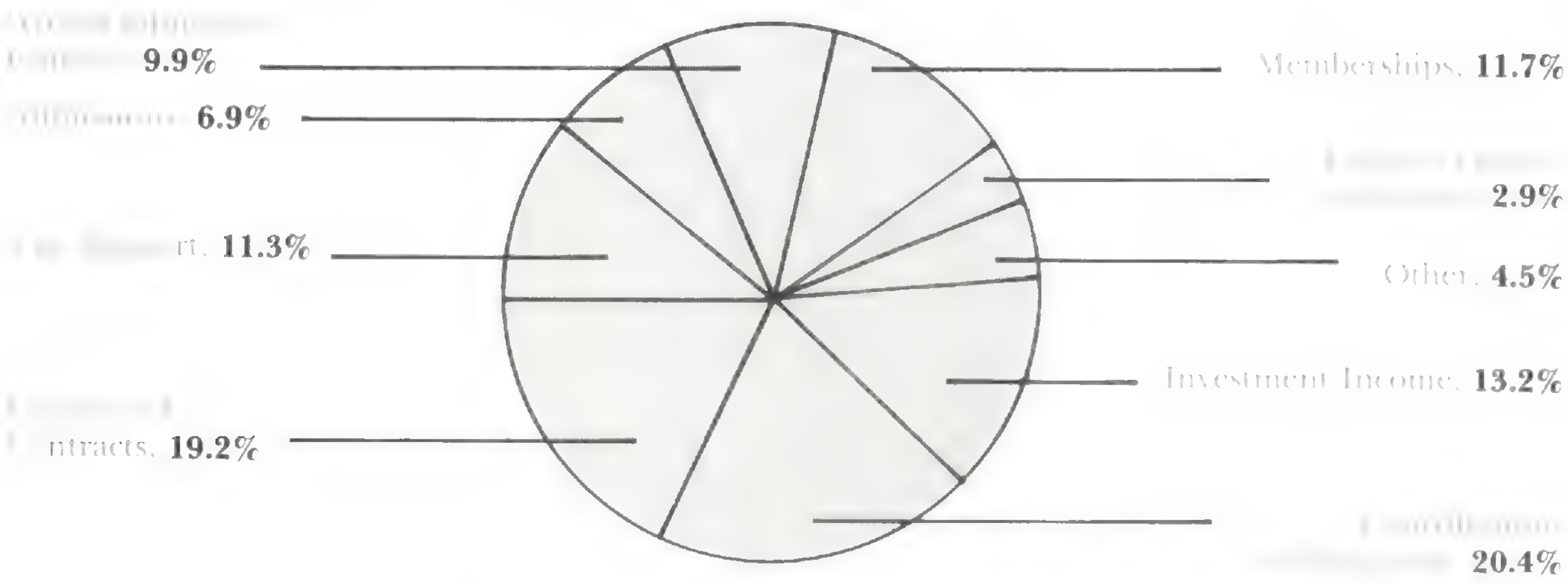
Japanese Festiva

FINANCIAL INFORMATION

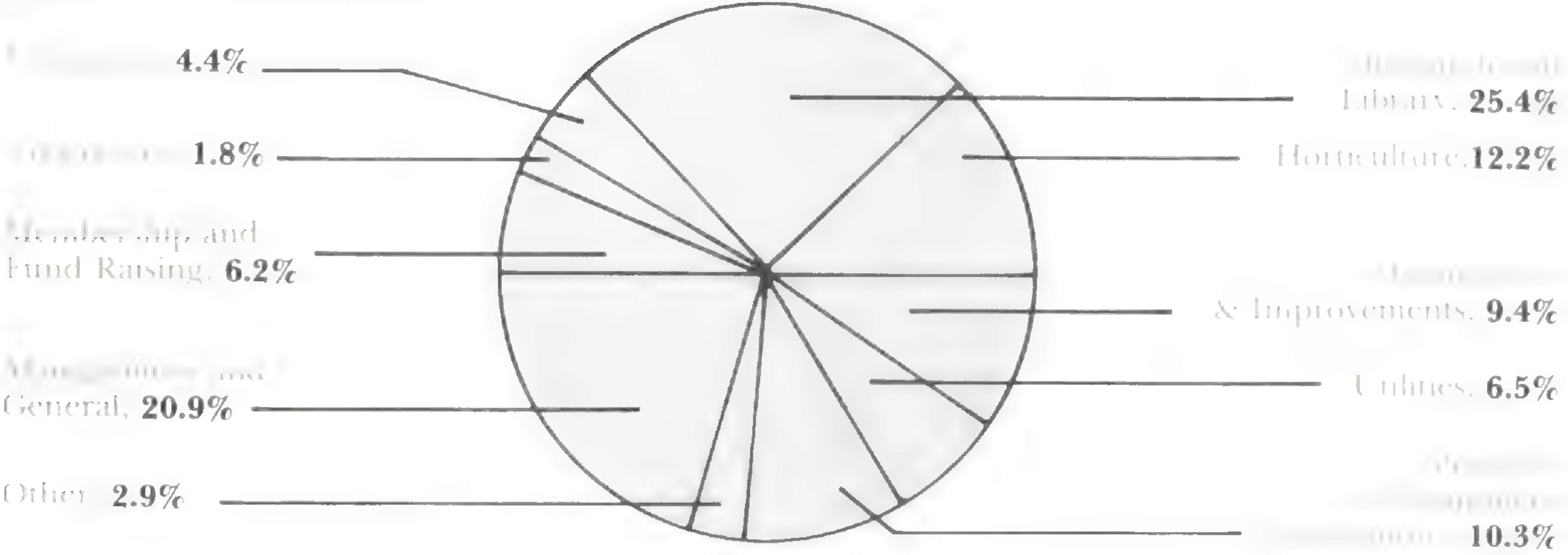
STATEMENTS OF SUPPORT AND REVENUE, EXPENSES, AND CHANGES IN FUND BALANCES FOR OPERATING FUNDS.

PUBLIC SUPPORT AND REVENUE	Year Ended December
[illegible]	1983
[illegible]	$ 630,618
[illegible]	1,138,477
[illegible]	550,000
[illegible]	649,586
[illegible]	$2,968,681
[illegible]	
[illegible]	$ 386,347
[illegible]	1,066,333
[illegible]	159,894
[illegible]	740,665
[illegible]	–
[illegible]	248,215
[illegible]	$2,601,454
[illegible]	$5,570,135
EXPENSES	
[illegible]	
[illegible]	$727,444
[illegible]	1,506,911
[illegible]	262,382
[illegible]	104,454
[illegible]	560,054
[illegible]	385,423
[illegible]	138,679
[illegible]	35,741
[illegible]	$3,721,088
[illegible]	
[illegible]	$1,243,408
[illegible]	288,118
[illegible]	82,109
[illegible]	$1,613,635
[illegible]	$5,334,723
EXCESS OF PUBLIC SUPPORT AND REVENUE OVER EXPENSES	$ 235,412
OTHER CHANGES IN FUND BALANCES—INCREASE (DECREASE):	
[illegible]	(613,152)
[illegible]	(3,038,099)
FUND BALANCES—BEGINNING OF YEAR	3,155,703
FUND BALANCES—END OF YEAR	$ (260,136)

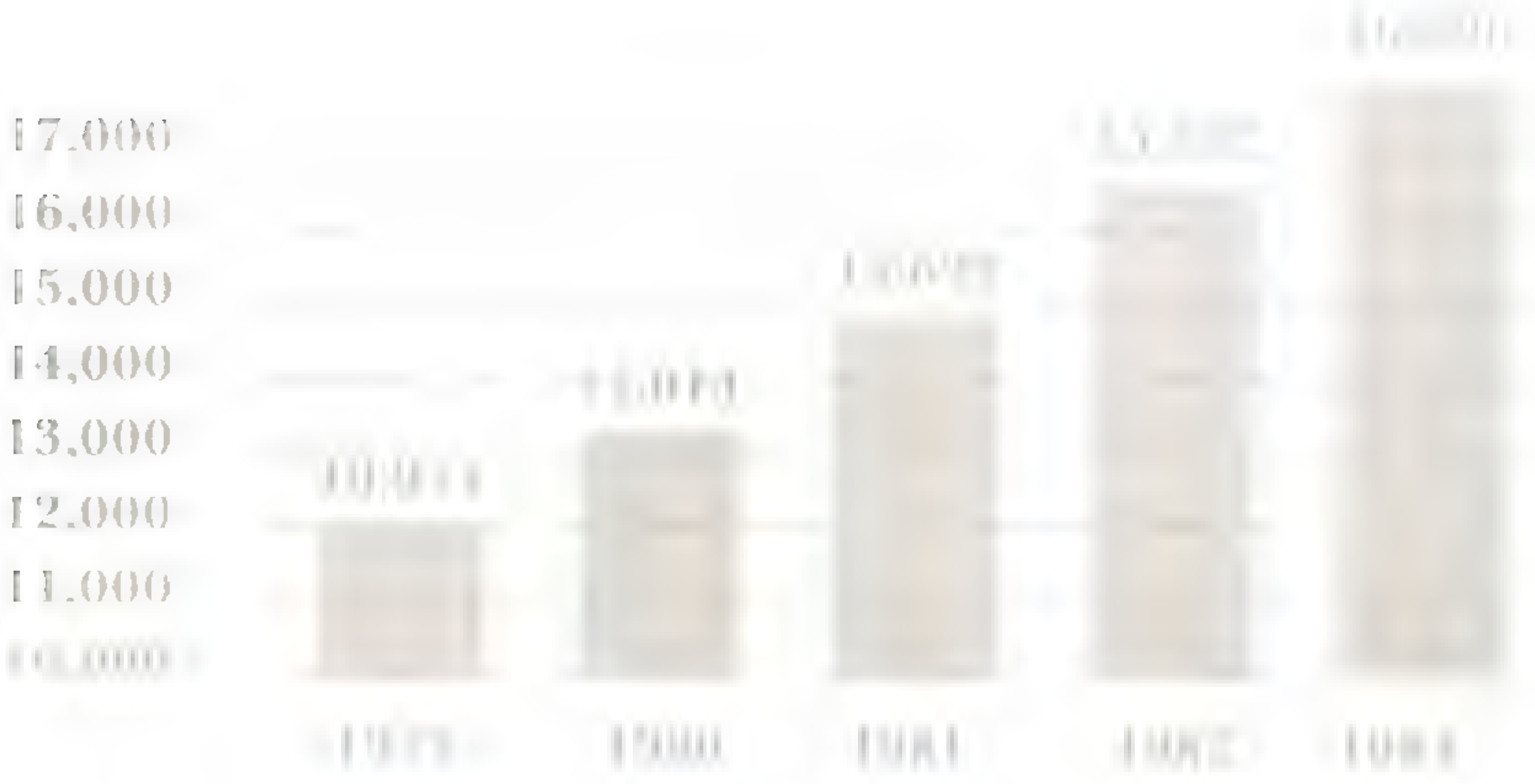
PUBLIC SUPPORT AND REVENUE, 1983



EXPENDITURES, 1983



TOTAL PAID MEMBERSHIP 1979 to 1983



FACTS & FIGURES, 1983

[illegible]

OTHER FINANCIAL INFORMATION:

Additions To Endowment And Capital Funds:	YEAR ENDED DECEMBER 31 1983	
Contrib[illegible]	$ 1,084,435	[illegible]
Investment [illegible]	8,372	[illegible]
Realiz[illegible]	1,122,069	[illegible]
[illegible]	$ 2,214,876	[illegible]
Land, Building And Equipment Fund Balance		
[illegible]	$19,615,431	[illegible]
[illegible]	733,298	[illegible]
[illegible]	(785,802)	[illegible]
[illegible]	(45,294)	[illegible]
[illegible]	$19,517,633	[illegible]

BOARD OF TRUSTEES, MISSOURI BOTANICAL GARDEN

[illegible]

[illegible]
[illegible]
[illegible]
William H. [illegible]
Robert R. Hermann, Sr.
Robert E. [illegible]
[illegible] H. [illegible]
[illegible] E. Ma[illegible]
[illegible] McDonnell II
William R. Orthwein, J
Marion K. Piper
[illegible]
Louis S. S[illegible]
Dr. Howard A. Sc[illegible]
[illegible] E. Shapleigh
[illegible]
[illegible] Johnson Sp[illegible]
[illegible] Smith, Jr.
John K. Wallace, J
[illegible]
[illegible] Wightman III
Harry F. Wuertenbac[illegible]

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[illegible]

OFFICERS OF THE BOARD OF TRUSTEES

[illegible]

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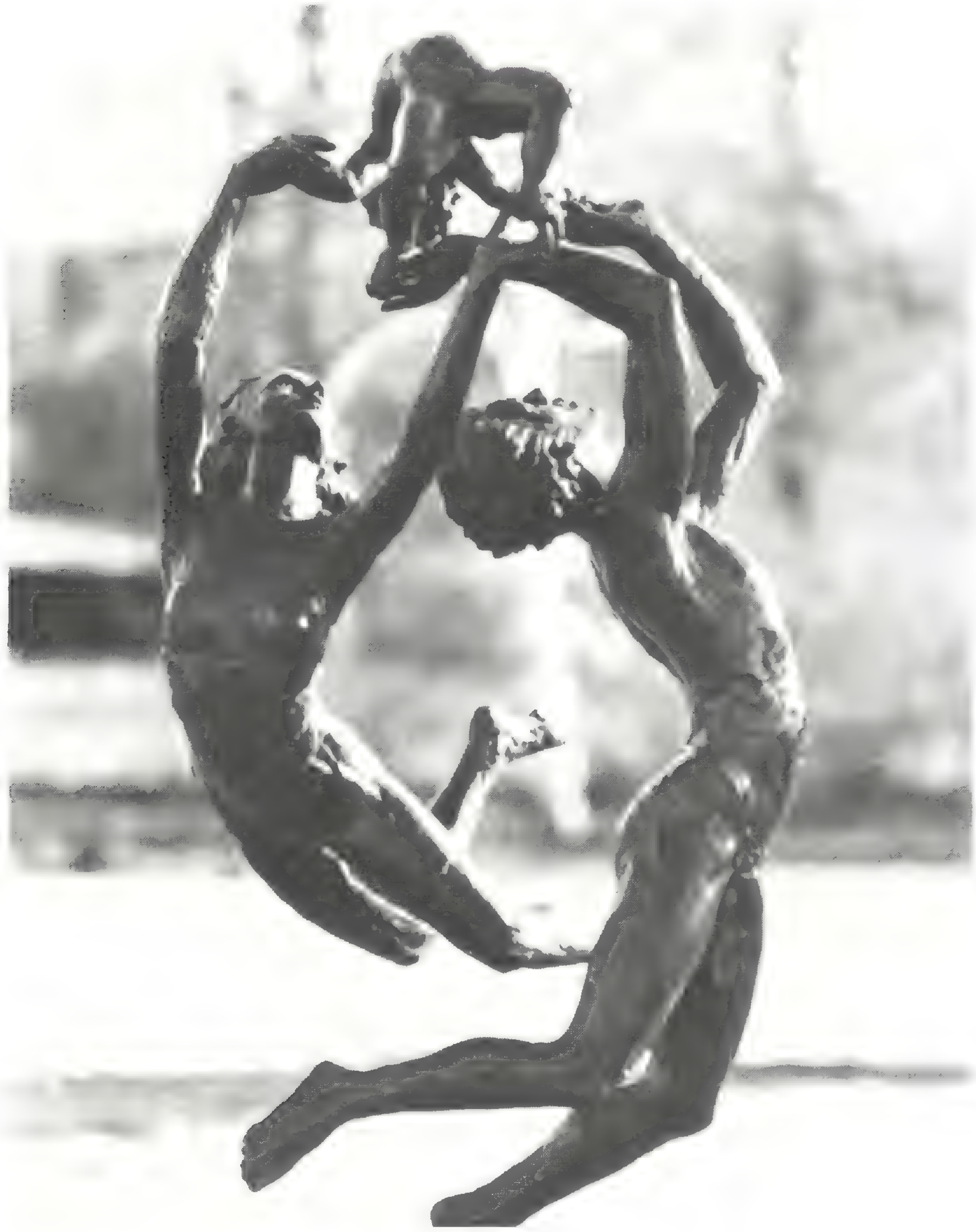
Howard F. Bae[illegible]
[illegible]

ADMINISTRATION

[illegible]



MISSOURI BOTANICAL GARDEN BULLETIN (ISSN-0026-6507)
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125th Anniversary
Missouri Botanical Garden

Volume LXXII, Number 4
June 1984

Missouri Botanical Garden Bulletin

Konichiwa—Welcome

For nine days in June, the Missouri Botanical Garden will ecome the Gateway to the Orient, with the excitement and ctivity of the 1984 Japanese Festival. Scheduled June 16 rough June 24, the festival is sponsored by The Seven-Up ompany and is recognized as one of the largest cultural celorations in the United States.

The focus of the festival is the beautiful Seiwa-En Japanese arden of "pure, clear harmony and peace" considered the ost authentic garden of its kind outside of Japan.

The festival which explores the culture of Japan will feature afts, demonstrations, exhibits, tours, performances and food. The sights, the sounds, the symbolism and the beauty of Japan will be on display from sunrise to sunset for a very full nine days.

The entertainment slated for this year's festival includes the popular taiko dojo drummers who fascinate audiences with synchronized rhythms and martial arts movements. Young suzuki violinists will perform, as will folk dancers, martial artists, and the ever popular "candy man" who spins intricate sculpture as he dances.

Demonstrations and exhibits will feature art, crafts, pottery, sumo wrestling, swords, furniture, cosmetics, silks, kites, origami (paper folding), gotenmari (threadball making), calligraphy and more.

An exceptional array of programs are planned especially for weekdays this year. Tuesday will be of interest to gourmet and gourmand alike focusing on the cuisine of Japan. Visitors will learn how to make sushi and other traditional Japanese foods through demonstrations and lectures. The Garden Gate Shop will be a source for the latest in culinary arts.

Wednesday's schedule is created with children and funloving adults in mind. There will be storytellers, fun and a tour at 10 a.m. designed for a child's eye view. Thursday takes a look at fashion and flair—Japanese style. Both traditional kimonos and the latest in Japanese design in the '80s will be modeled during an exciting luncheon. The adventurous will be able to try the latest in makeup from Shisedo cosmetics as well.

Of special interests to Garden lovers throughout the week, will be exhibits of bonsai and ikebana (the art of flower arranging). Experts will be on hand to discuss their art.

Friday is a day which highlights the role of the garden in Japanese culture. Tamra Englehorn Raven will conduct a morning tour that day as part of the Land of the Rising Sun program. A special breakfast and a slide presentation on the gardens of Japan by Alan Godlewski, chief horticulturist for the Garden, will also be on the program.

Popular candlelight tours through the decorated Japanese Garden will be available on Saturday (June 16), Sunday (June 17), Wednesday (June 20), Friday (June 22) and Saturday (June 23). There will also be afternoon tours at 2 p.m. on both Sundays and 11 a.m. tours on all other days.

For those who literally want a taste of the exotic, Japanese foods will be available during the entire length of the festival. Gardenview Restaurant which have special dishes on the menu and food and refreshment booths will be plentiful on the grounds.

Concerts of koto music, ancient kabuki theatre and comical yugen theatre are also planned. Swords and silks. Drummers and dollmakers. Koi (Japanese carp) and kites. Dancers and delicacies. Classes and concerts. Entertainment. Enchantment. Excitement. You won't want to miss a single day.

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The MISSOURI BOTANICAL GARDEN BULLETIN is published seven times a year, in February, April, May, June, August, October, and December by the Missouri Botanical Garden, 2345 Towe Grove, St. Louis, Mo. 63110. Second Class postage paid at St. Louis, Mo. $12.00 pe year. $15 foreign

The **Missouri Botanical Garden Bulletin** is sent to every Member of the Garden as one of the benefits of thei membership. For a contribution as little as $30 per year, Members also are entitled to: free admission to the Garden, Shaw Arboretum, and Tower Grove House; invitations to special events and receptions announcements of all lectures and classes; discounts in the Garden shops and for course fees; and the opportunity to travel, domestic and abroad, with othe Members. For information, please cal 577-5100

Postmaster: send address changes to P.O. Box 299, St. Louis, MO 63166.

Comment

In March, I attended the launch of the World Wildlife Fund Plants Campaign, marked by a ceremony held at Kew Gardens in England. Prince Philip presided at this event, which marked the start of a campaign to raise about $4 million worldwide for the purpose of plant conservation. As a result of this campaign, public awareness about plants will be raised worldwide; valuable enetic resources of plants that are related to cultivated ones will e saved; and specific plant conservation projects will be itiated in 24 nations around the world.

Although more attention in conservation circles has tradi- onally been focused on a few spectacular animals, such as gers, whales, and giant pandas, it is plants and plants alone at make life possible for them, and for us. Only 20 kinds of lants, out of the roughly 240,000 that exist, supply 85 percent of ur food. About 40 percent of the world's drugs are derived from ild plants, a $10 million industry in the U.S. alone.

Many additional uses are being discovered for plants every year. For example, the mayapple, a familiar plant, was used by the Indians to treat warts and for other similar purposes. Recently, a chemical modeled after the one that is the source of mayapple's effectiveness has been put on the market by Bristol Laboratories; it is highly effective in treating certain forms of cancer. Most plants have never been checked at all to see what their uses might be.

In view of this, it is a disaster that the clearing of tropical forests is predicted to lead to the extinction of perhaps 40,000 kinds of plants, one in six of the world's total, within 50 years. The Garden's program of exploration for tropical plants, largest in the world, is making an irreplaceable contribution by finding and saving many plants that have never been seen or classified before they disappear forever. Your support makes this activity possible.

Peter H. Raven

You Won't Want to Miss...

An Exhibit of Sculpture by Charles Marion Russell

As a boy, Russell lived in the immedi- te Garden neighborhood, attended Christmas parties in Tower Grove Park, nd rode his pony through Mr. Shaw's Garden, much to the consternation of Mr. Shaw. He grew up to become one of the ost famous Western artists of his time, nd is still celebrated by art lovers of all ges. Through the generosity of a private ollector, visitors to the Garden will have n opportunity to see both bronze and sil- er sculptures on display in Monsanto Hall from June 28 through August 5.

A Victorian Fair at the Garden

July 18 through 24, step back in time o the Victorian Era as the Garden cel- ebrates its 125th Anniversary. Of special nterest is an old-fashioned ice cream social on July 21 and 22, and the celebra- ion of Henry Shaw's birthday on July 24 with a full day of children's activities.

Parenting Fair at the Garden '84

If you are a parent, an expectant parent, a grandparent, or just interested in children you won't want to miss the exhibits, lectures, and entertainment planned for August 11 and 12. Hosted by the Garden and presented by Kids In the Middle and Progressive Youth Center, the Fair will focus on issues of interest to parents, including pregnancy, child development, parenthood and child-related products and services.

A Helping Hand Needed at the Arboretum

Garden and Arboretum supporters are asked to save August 25 to help with this year's Operation Clean Stream. Traditionally a day to clean up trash in the Meramac River, volunteers will help clean the portion of the river that flows through the Arboretum. Organizers say that enthusiasm is more important than experience, but the use of canoes would be appreciated. For more information call Kimberly Perry the coordinator at 694-8875 or 694-7961; or contact David Wilson, environmental education coordinator at the Garden, 577-5147.

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Gardening in St. Louis

Summer Gardening Checklist

Watch for insect infestations. Control the insects before they become a severe problem. Always start off with the safest form of control. Insecticidal soap is one of my favorite insect controls. It is effective in killing most soft-bodied insects like aphids, white flies, mealybugs, and spider mites. For best control you must thoroughly spray the foliage of the plants. If your plants are covered with a large number of insects, you should spray this material on your plants every seven to ten days for a total of three applications.

If your lawn is being devoured by sodweb worms, white grubs and chinch bugs, you might want to try a new lawn insecticide just released for consumer use called "Oftanol." Commercial applicators have found it to be highly effective. It penetrates the thatch better and is more residual than the other commonly used lawn insecticides; it provides an entire season of insec control. Oftanol is available as a 1.5 percent granular materia which can be applied with your lawn fertilizer spreader.

In addition to requiring an application of a high phosphoru fertilizer (the middle number on the fertilizer bag) at the time c planting, tomatoes require a significant amount of nitrogen du ing the growing season. When the tomato fruits are about one t one and a half inches in diameter, apply one tablespoon of am monium nitrate or two teaspoons of urea around each plan Water this fertilizer in thoroughly. Apply it at the same rate afte picking your first fruits and again a month later.

Remember to remove the seed heads from all of your bec ding plants like marigolds, zinnias and petunias. Seed produc tion robs these plants of energy which could be better used t produce more colorful flowers.

Look into some of the various drip irrigation systems avai able to the home gardener. The cost of these systems is modes compared to the increased garden production you can expec and the effort and time such a system saves you.

Mulching is always a beneficial summer gardening practice It keeps the soil cool and moist and dramatically reduces wee growth. Many materials can be used for mulch including straw hay, compost, shredded hardwood bark, black plastic, an grass clippings. A few words of caution when using grass clip pings: don't use layers deeper than one to one and one-hal inches. If you apply it too thickly, the grass will become a fou smelling mess! If you use clippings supplied by your neighbo be sure that he has not used any 2, 4-D type of herbicide in th last several months. Tomatoes and grapes are particularly sensi tive to this herbicide. Their leaves will twist and curl if they ar subjected to even a very small amount of it.

—Steven A. Frowine, Public Horticulture Specialis

Rose Recommendations

Although it's a bit late to be planting roses, now is a good time to look over the Garden's extensive collection and pick out your new favorites to plant in your garden this fall or next spring. David Vismara, the Garden's rosarian, recommends the following varieties as those best suited for St. Louis gardens.

Climbing Roses

America	salmon
Doubloons	yellow
Handel	pink-white blend
Improved Blaze	red
New Dawn	light pink
Red Fountain	red

Grandiflora

Camelot	medium pink
Carousel	medium pink
Gold Medal	yellow
Love	red blend
Pink Parfait	pink blend
Queen Elizabeth	medium pink
Shreveport	orange
Sonia	pink
Sundowner	apricot blend
White Lightnin'	white

Floribunda

Angel Face	lavender
Charisma	red-orange blend
Cherish	medium pink
Circus	yellow blend
Europeana	red
French lace	white
Iceberg	white
Impatient	orange
Little Darling	yellow blend
Red Gold	yellow-red blend
Sarabande	orange red
Simplicity	pink
Sun Flare	yellow
Sunsprite	yellow
Walko	red

Hybrid Teas

Antigua	apricot blend
Cayenne	orange red
Chrysler Imperial	dark red
Electron	deep pink
Granada	red blend
Gypsy	orange red
Jadis	medium pink
Medallion	apricot blend
Mister Lincoln	dark red
Mon Cheri	red blend
Olympiad	red
Paradise	lavender
Pascali	white
Peace	yellow blend
Portrait	pink blend
Snow Fire	red blend
Sun Bright	yellow
Tropicana	orange
Yankee Doodle	orange-yellow blend

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The Trustees and staff of the Missouri Botanical Garden were saddened to learn of the recent death of Mrs. Jerome Kircher (Alicia). Mrs. Kircher was a member of the Historical Committee and a long-time friend of the Garden. Mrs. Kircher was very active in the community, serving as president of the Saint Louis Woman's Club from 1955 until 1959. Mrs. William R. Gentry, Jr., current president of the Saint Louis Woman's Club said, "Mrs. Kircher had many interests in the community but her first love was always the Garden."

Mrs. Kircher was honored by many tributes from friends and from the past presidents of the Saint Louis Woman's Club including Mrs. Robert N. Arthur, Mrs. Hugh W. Baird, Mrs. Robert A. Black, Mrs. Rollin L. Curtis, Mrs. B. Everett Grey, Mrs. Lewis T. Hardy, Mrs. C. Carter Lewis, Mrs. William J. Pixley, Mrs. Donald T. Wright, Mrs. Otto Chas. Hanser and Mrs. William R. Gentry, Jr.

Members' Days

New Members' Days benefits continue twice monthly. On those days, Members will receive free tram rides, an additional five percent (5%) discount on plant purchases, and have the opportunity to purchase special meals in the Gardenview Restaurant. The Garden Gate Shop will also offer special Member's Only sale items. In addition, each Member may bring two guests, free of admission charge, to the Garden.

Each Members' Day will also feature special events including family activities, educational lectures, demonstrations and valuable horticultural advice. The schedule of events for June and July Member's Days is as follows:

June 4—"The St. Louis Union Station: A New Development" lecture/slide program; Harry A. Pollay, Senior Development Director, The Rouse Company; 10:30 a.m., Shoenberg Auditorium.

June 30—Wilderness Wagon Tours of the Arboretum. Reservations required by phoning 577-5186. Tours will be limited. 10:00 a.m. & 11:00 a.m.

July 12—"The Future of Tropical Plant Exploration" lecture/slide program; Dr. Peter H. Raven, Director, Missouri Botanical Garden; 10:30 a.m., Shoenberg Auditorium.

Herbarium Open House—Enjoy a unique look at the Herbarium while it is in operation. 11:30 a.m.-3:00 p.m. Meet Dr. Marshall Crosby, Director of Research and Dr. Nancy Morin, Administrative Curator of the Herbarium from 2:00-3:00 p.m.

July 28—Unique tours of the Library and Herbarium. Enjoy a tour of the rare book room, bindery and library in the John S. Lehmann Building at 10:30 a.m. or 2:00 p.m. Reservations required.

Tour the amazing and unique Herbarium and you will be among over 3 million plant specimens. John S. Lehmann Building at 11:00 a.m. and 2:30 p.m. Reservations required.

Plan to be at the Garden for Members' Days all through the Year. Save these dates for special activities: August 8 and 25, September 11 and 22, October 18 and 27. November 10 and 19, and December 8 and 17.

Did You Miss A Members' Day?

These Garden stickers are a helpful reminder of Members' Day activities. Just peel them off and place them on your calendar to mark the special days planned just for you.

Henry Shaw Committee Recognized

Members of the Henry Shaw Committee were given special recognition at the April Board of Trustees' meeting for their efforts in raising $184,000 which will be used to help offset operating costs for the Garden. Pictured left to right are: Robert E. Kresko, Chairman, George Hasegawa, Robert M. Williams Jr., Carl L. Beckers, John K. Wallace Jr., Vice Chairman, Rosemary E. Carson, Douglas Von Allmen, A. Timon Primm III, Mim Kittner, Florence M. Forbes, Harry Wuertenbaecher Jr., and Henry Belz III. Other members of the Committee who deserve special thanks but are not pictured here include Patrick Ackerman, Alan E. Doede, Mary Hillerich, Walter G. Stern, Gary A. Close, Kevin R. Farrell, George S. Rosborough Jr., Terry Conway, H. Dean Mann, Jules D. Campbell, Charles A. Dill, David L. Sliney and Franklin F. Wallis.

FOR *Younger* MEMBERS

Summer's Here!

The month of June is special in many ways. First of all, June marks the end of the school year. The summer season begins during the month of June. And the Japanese Festival at Shaw's Garden always takes place in June.

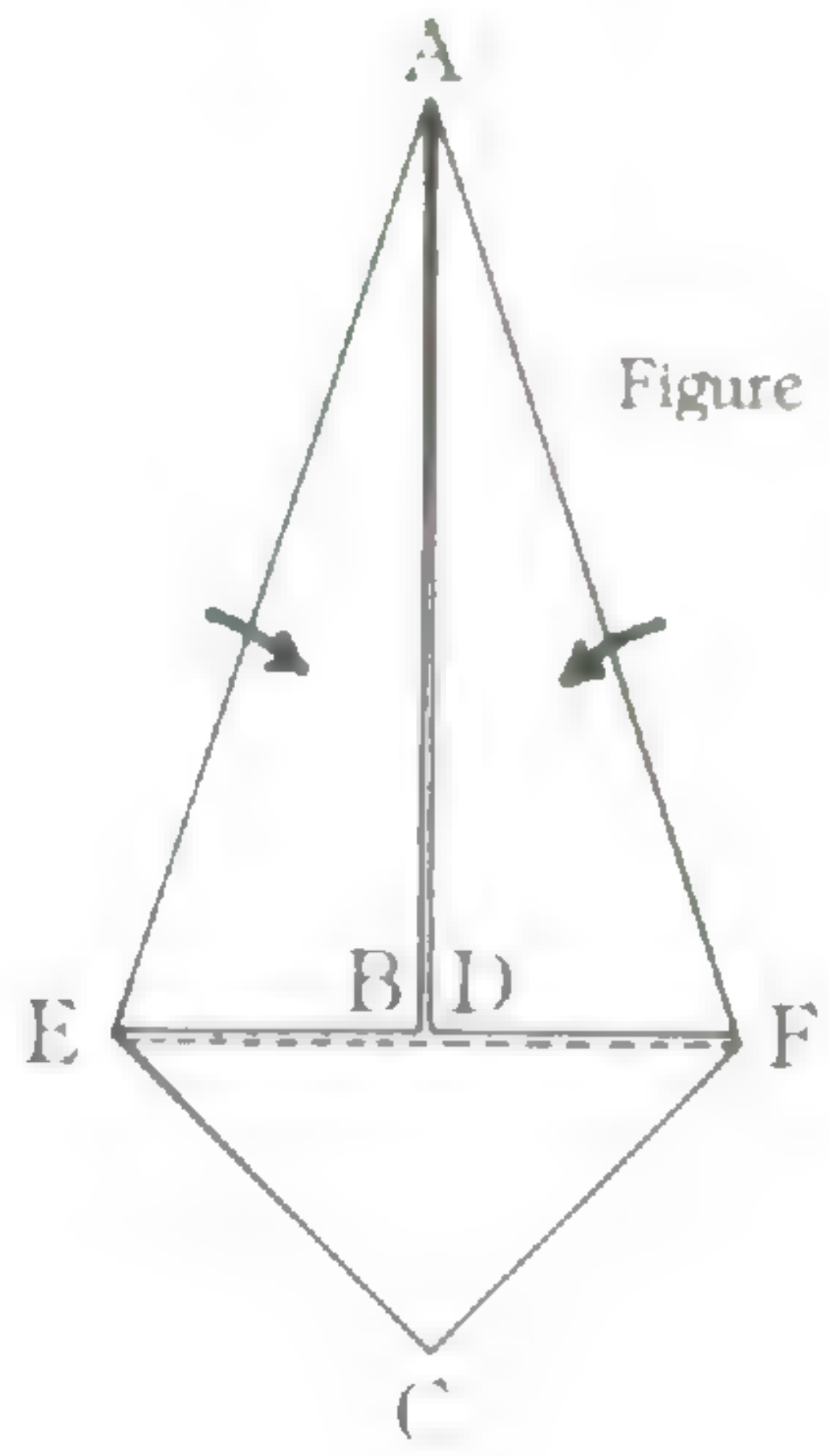
Your teachers spend time getting ready for the end of school in many ways. Your family makes plans for special summer activities. And while the Missouri Botanical Garden prepares for the Japanese Festival, you can get ready to come to the Festival by practicing origami (pronounced oh-ree-GAH-mee). Origami is the Japanese art of folding paper in order to make figures and objects. If you have ever made a folded paper airplane, you know how much fun folding paper can be. Japanese children create objects such as flowers, sailboats, or animals by folding colored paper in different ways. No cutting or pasting is needed.

You can practice origami by making a sailboat. You will need: six-inch square piece of lightweight paper. What to do: Look at the figures below as you follow these simple instructions:

1. Place the six-inch square piece of paper on a table. Fold AB to meet with AC. Repeat with AD. The points B and D should meet at line AC. See figure 1.
2. Fold along line EF so that point C is folded above points B and D. See figure 2.
3. Finish your sailboat by folding along GH upward. Only a small part of point C should show. See figure 3.

You will learn to make other kinds of origami figures when you come.

—Ilene Follman
Education Consultant



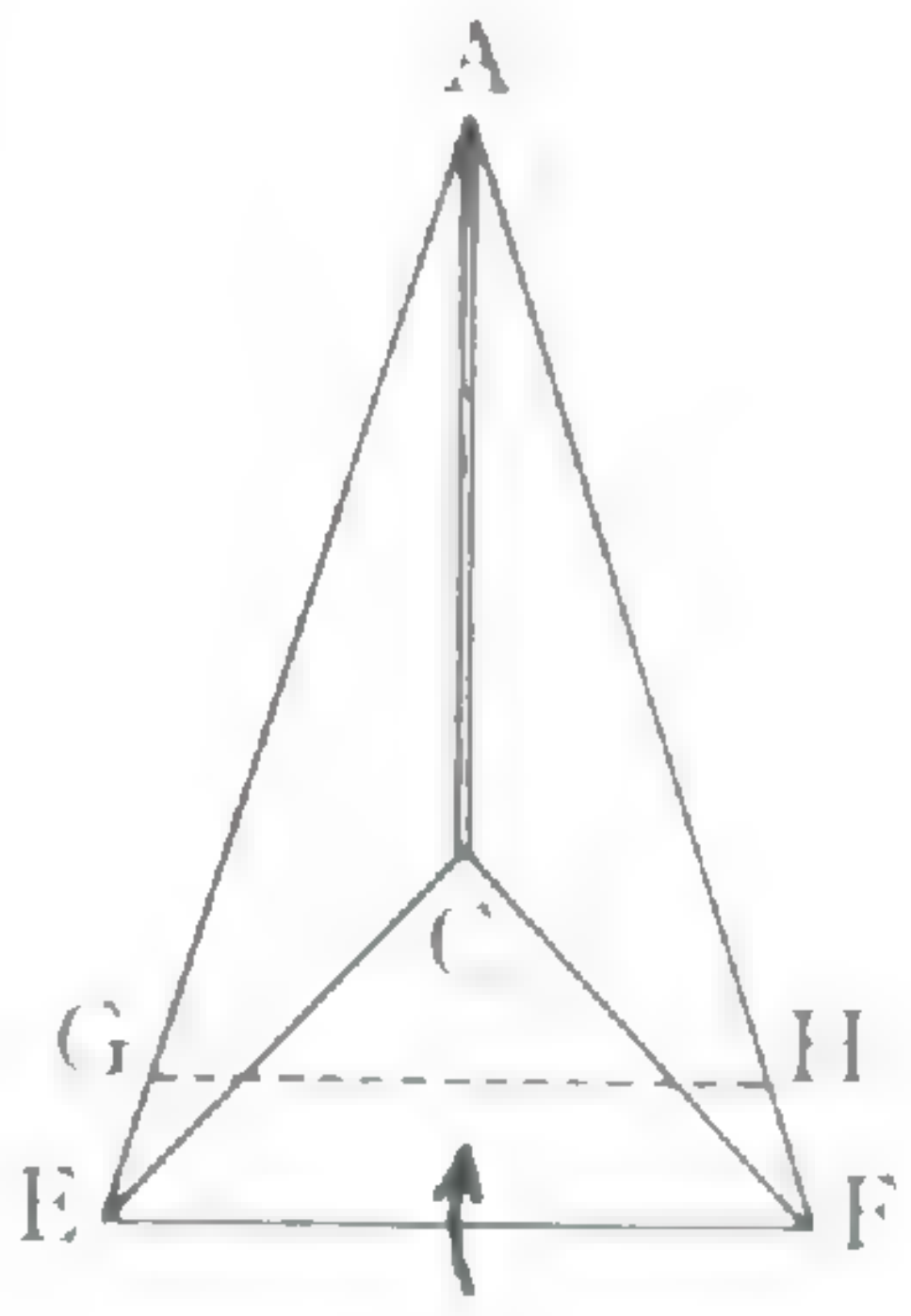


Figure 2.

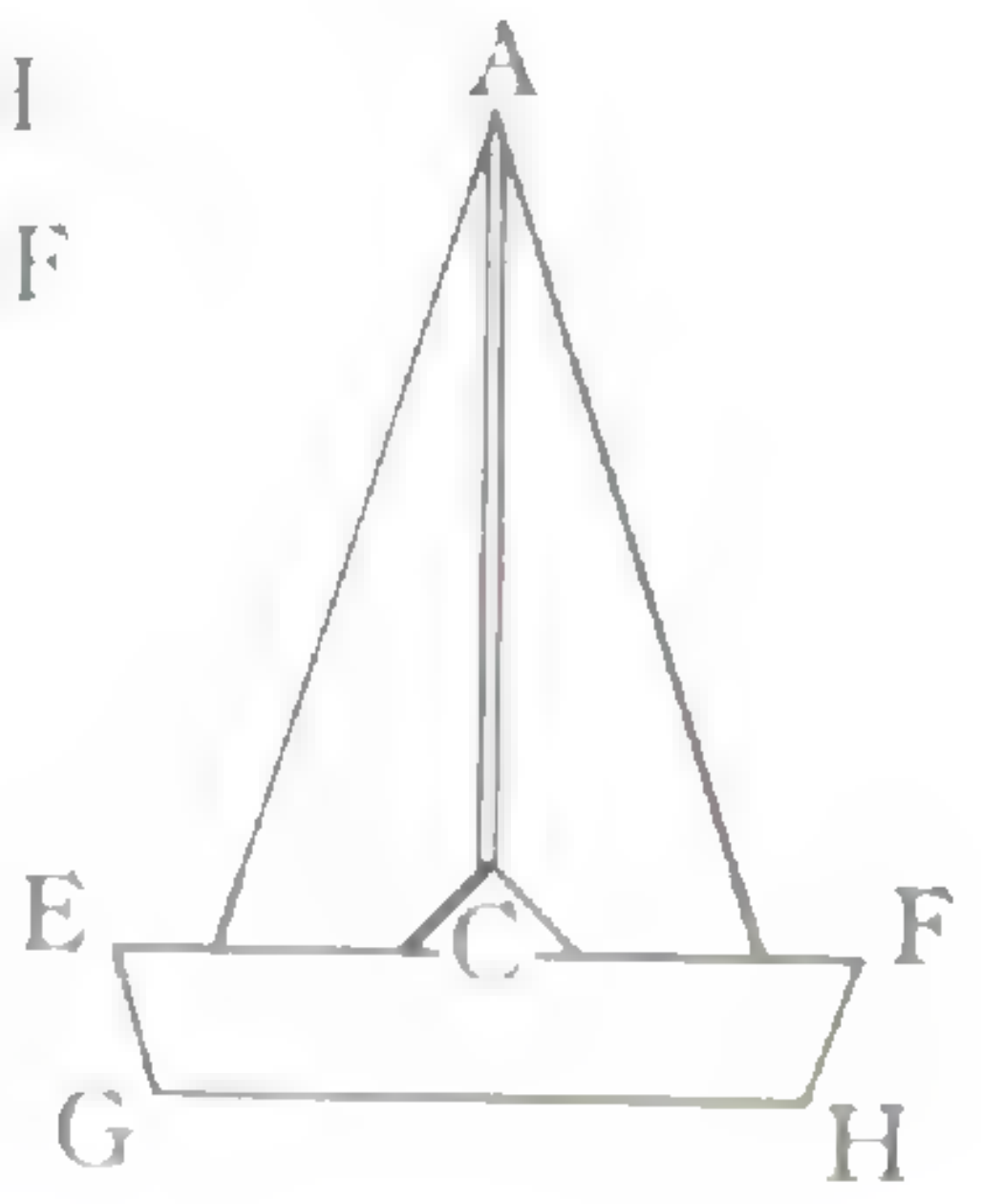


Figure 3.

Summerscape

For a complete listing of all th children's classes offered this summe call 577-5140 for the Summerscap brochure.

Summer Programs with a Japanese Flavor

A Touch of Japan *(ages 10-12)*

In this one week class, participants will be provided with a touch of Japan—its customs, people and gardens. Using the 14-acre Japanese Garden as inspiration, participants will write haiku, design ikebana flower arrangements, make dry gardens and experience other aspects of this unique culture. Bring your own lunch; everything else is provided.

The instructor for the series is Ichiro Matsuda a native of Japan currently teaching at Richland Heights High School in Maplewood. Mr. Matsuda has been teaching Japanese programs at the Garden for the past two years.

One 5-day session: June 18-22
10:00 a.m. to 3:00 p.m. Ridgway Center
Fee: Members $47.50
Non-members $57.00
To register: call 577-5140.

During the Japanese Festival!

Each week day during the Japanes Festival there will be a special class a 1:00 p.m. in the Botanical Room jus for children ages 8-12. No reservation are required, but only the first 30 chil- dren to arrive will be able to participate No large groups please.

June 18, 19, and 21:
Origami for Children
June 18 and 22:
Making Japanese Kites

Children's Film Festival

Celebrate summer with a week long series of adventure films in the Shoenberg Auditorium. Films will be shown daily at 1:00 p.m. Admission fee: $1.00.

July 29: *Peter Pan.* The story of the boy who wouldn't grow up. Animated.

July 30: *The Mouse and His Child.* A tale about a wind-up mouse and his child and their dream to become self-winding. Animated.

July 31: *The Sword In the Stone.* Tales of King Arthur and his famous round table. Animated.

August 1: *Blackbeard's Ghost.* The story of Blackbeard who was cursed to roam the earth until he did one good deed.

August 2: *Gulliver's Travels.* The ad- ventures of a shipwrecked sailor in the land of the "little people."

August 3: *Dumbo.* Tales of the baby elephant who can fly. Animated.

August 4: *Snow White.* The adven- tures of beautiful Snow White and her seven friends, the dwarfs. Animated.

Japanese Children's Day Honored With Traditions

eremiah Dellas and Dr. Peter H. Raven officially opened Japanese Children's ay on May 5, 1984.

The ancient observance of Japanese Children's Day, elebrated each year on May 5, was ushered in this year by Dr. eter H. Raven and Jeremiah Dellas, the National Poster Child r the Epilepsy Foundation. The day-long festivities celebrating hildhood were begun at a ceremony in the Japanese Garden.

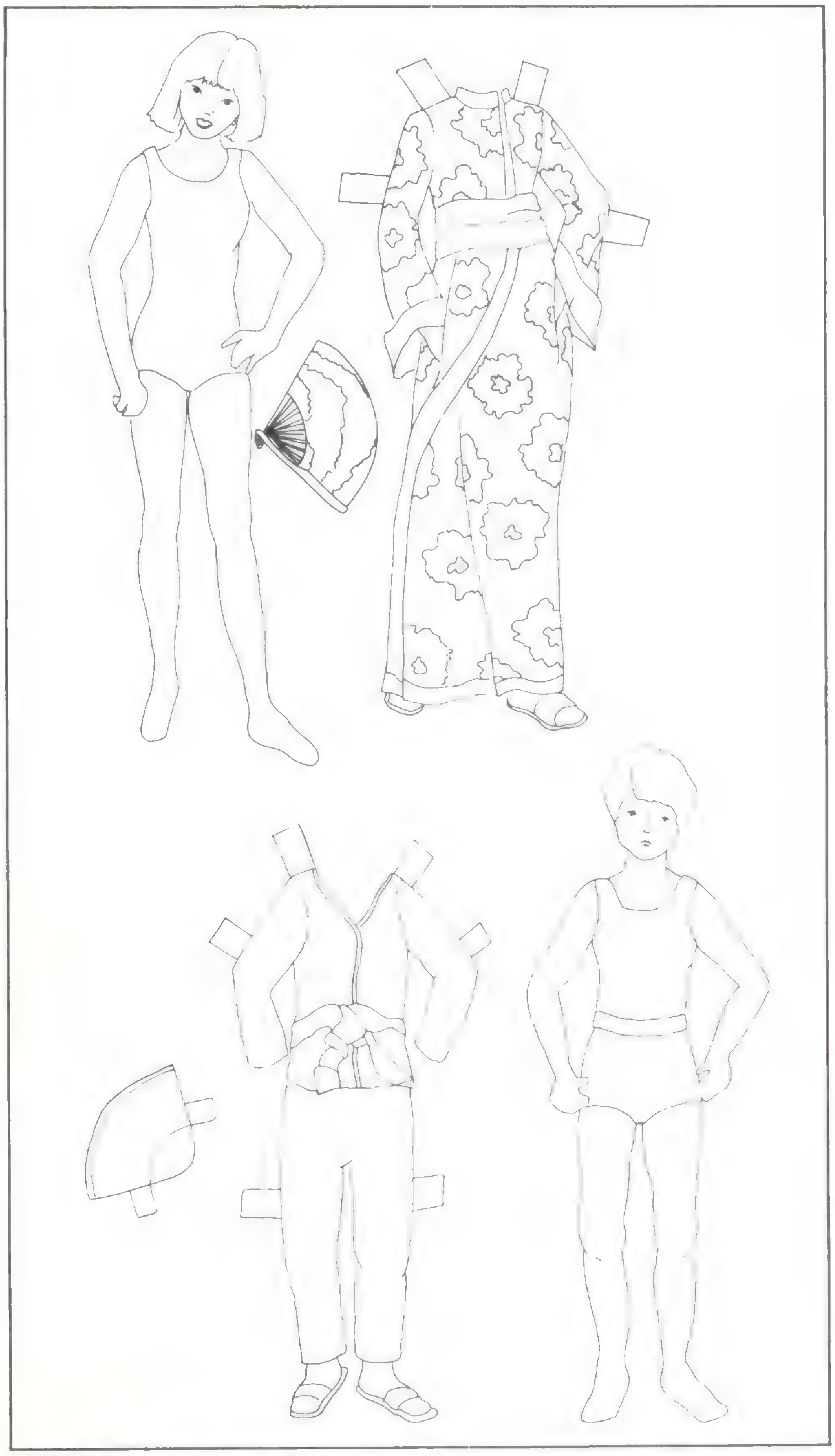
Dr. Raven presented Jeremiah with a solid brass cube with e Garden's symbolic logo printed on top which Jeremiah will end to President Ronald Reagan. The cube is representative of favorite highlight of St. Louis.

Visitors each received koi (carp) kites as a symbol of the oliday which is celebrated nationally in Japan. Koi represent ourage and determination in the Japanese culture because ey swim upstream and perform courageous acts, a strong xample for children.

The koi in the Japanese Garden's 4-acre lake were a special ghlight of the day with free fish food available. Koi are also opular with visitors all year round with their spectrum of color nd constant hunger for attention.

Japanese Children's Day was saluted with colorful decora- ons, Suzuki violin performances, Japanese foods, origami aper folding) workshops, films, and a special interpretive tour Seiwa-En, the Japanese Garden which is in bloom. An espe- ally popular activity was the coloring contest for children which sed Japanese style paper dolls.

Families enjoyed a variety of traditional Japanese activities. you missed out this year, we have included the paper dolls for oloring and cutting. Be sure to mark your calendar for next ay 5.



Hundreds of children and their parents enjoyed a beautiful day at the Garden.

A Vanishing Art

The Traditional Art of Japanese Packaging is the subject of an exceptional exhibit that will be on display during the Japanese Festival, June 16 through 24. The wrappings represent what is today a transient, vanishing art, but certainly is a representative form of Japan's cultural heritage.

The fascinating packages have a very utilitarian lineage, drawing on the wisdom that comes from everyday life. The exhibit clearly shows the Japanese ability to create beauty from the very simplest products of nature.

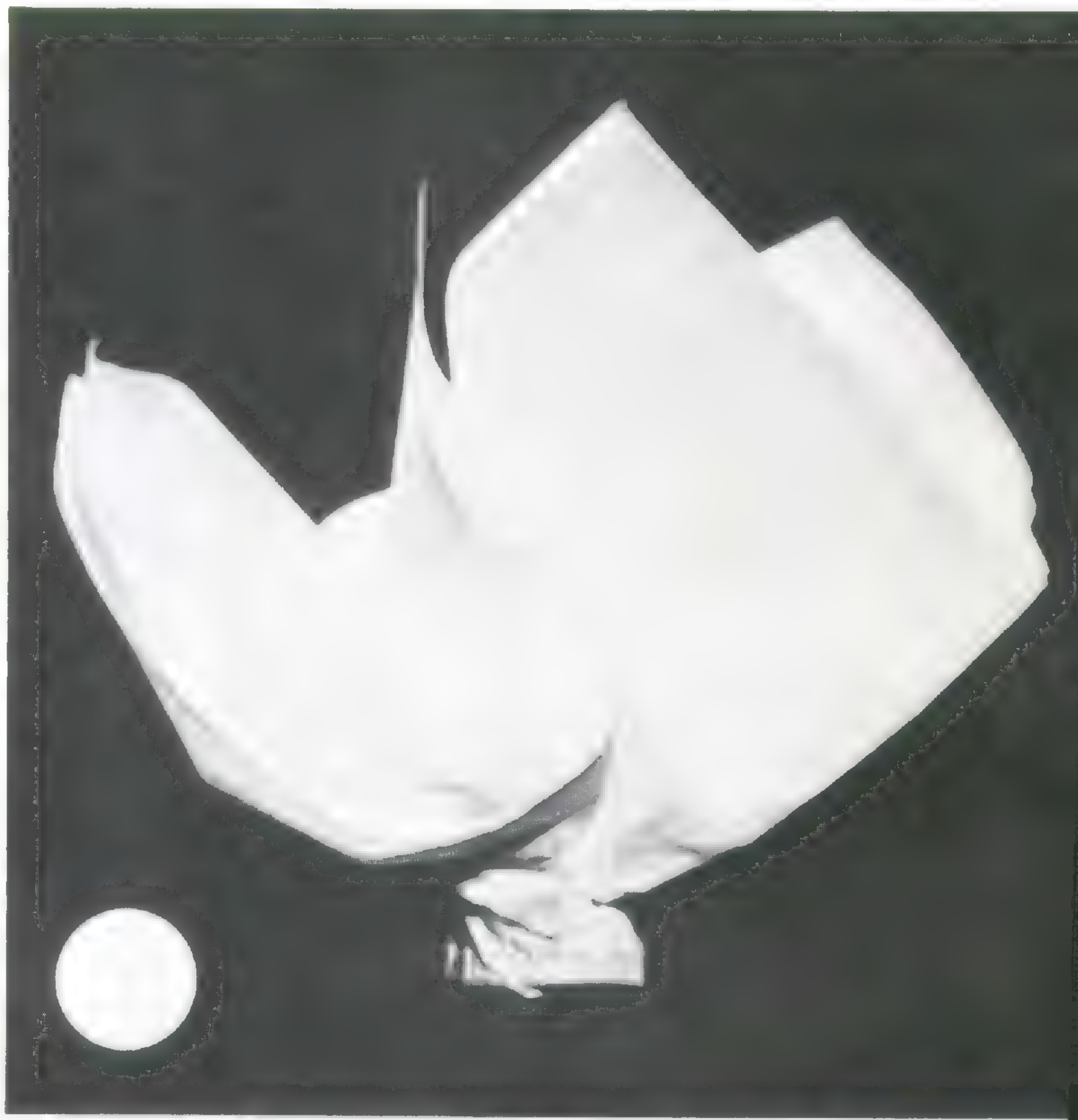
The western viewer is immediately struck by the natural quality of the packages. In most cases they incorporate very textural, organic forms, using leaves, grasses, bamboo and paper. The basis for this "naturalness" is the Japanese view of man in nature. The conflict between man and nature is a particularly Western concept, as the Japanese view man as a part of nature, commingling with and embracing nature. Japanese culture views nature as a friend, which is one reason why the Japanese today are on the vanguard of the movement to protect the natural environment.

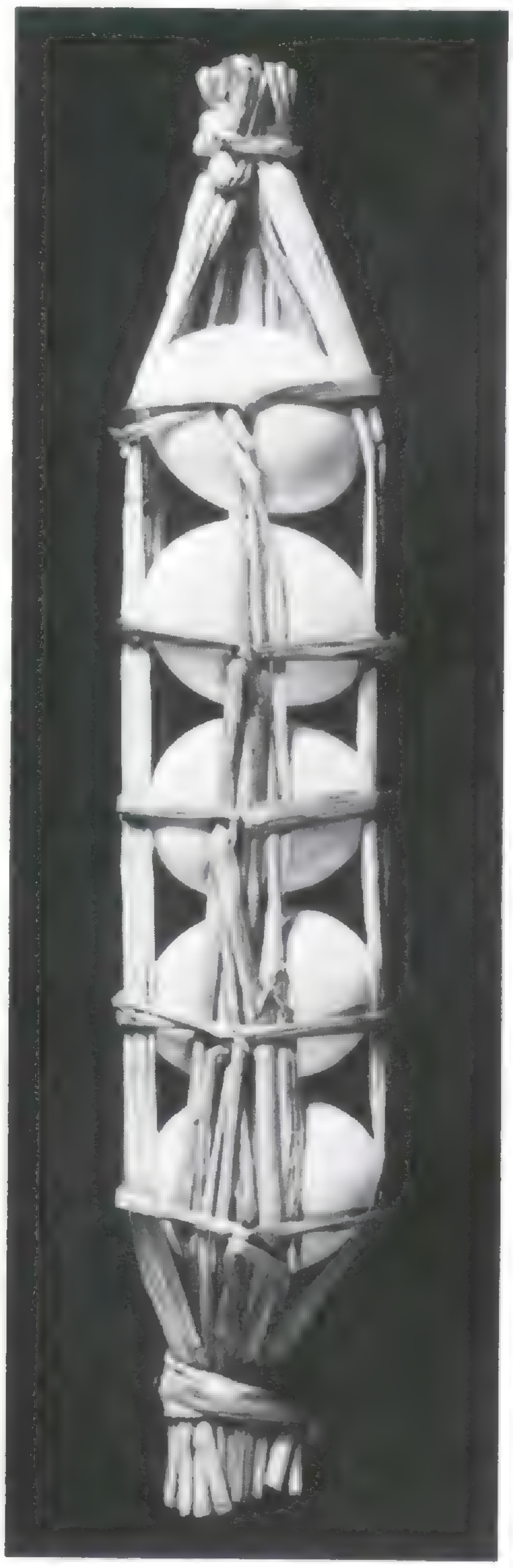
Other traditionally Japanese philosophies are evident in the art of packaging. The handicraft of the packages shows that the package itself has meaning. Often the wrapping is more charming and valuable than its humble contents. For example, the bamboo cylinder shown here contains a simple confection, but the package is meant to be saved and used as a vase when the contents are gone.

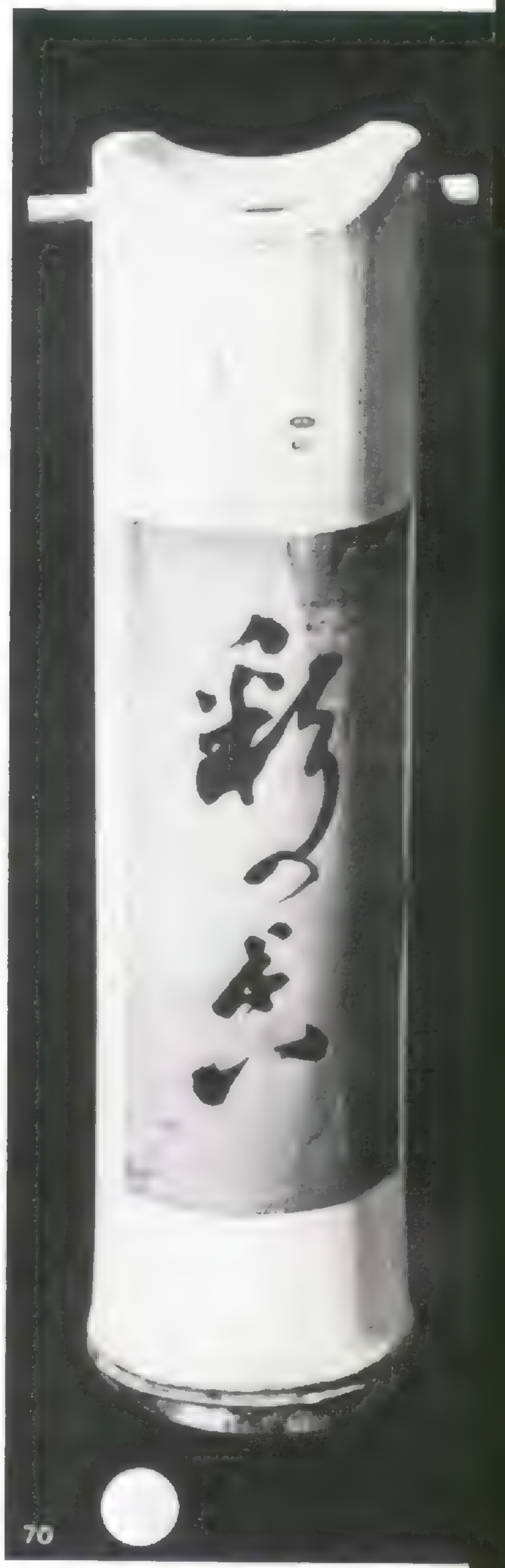
Many types of packaging are representative of food wrapping. A simple, small cake might be elaborately wrapped for presentation. The philosophy being that the package, as well as the contents, should give pleasure. Part of the recipient's enjoyment is in the unwrapping of the package as well as the eating of the cake.

Japanese packages are also noted for their handiwork. The human hand is evident in the manipulation of materials. It is a ritualistic act which shows the Japanese regard for all things as being of value. Packaging and wrapping is also seen as a ritual of purification. For example, the lovely, flowerlike piece of paper shown here contains coins to be used as a tip, as Japanese etiquette frowns on a gift of money that is not wrapped in some way. Handwrapped money is now being replaced by small decorated envelopes used for the same purpose.

Traditional Japanese Packaging is rapidly disappearing as mass produced goods have flooded the market. Many of the packages which will be displayed in the exhibit have become artifacts of a changing culture. But aside from the symbolism and philosophy that they represent, their form and beauty are a simple delight to the viewer.







CALENDAR

June

June 2

Botany Field Day
Ridgway Center, Grounds, Herbarium
An adventure for all ages especially planned with the whole family in mind. A "behind the scenes" look at the botanical research conducted by the Garden. From 10 a.m. to 3 p.m.

June 2 & 3

Iris Society Show
Orthwein Floral Hall
A chance to see the majestic queen of the garden displayed and judged.

June 4

Members' Day
Shoenberg Auditorium
"The St. Louis Union Station: A New Development," is the topic of discussion by Harry A. Pollay of The Rouse Company. 10:30 a.m.

June 7

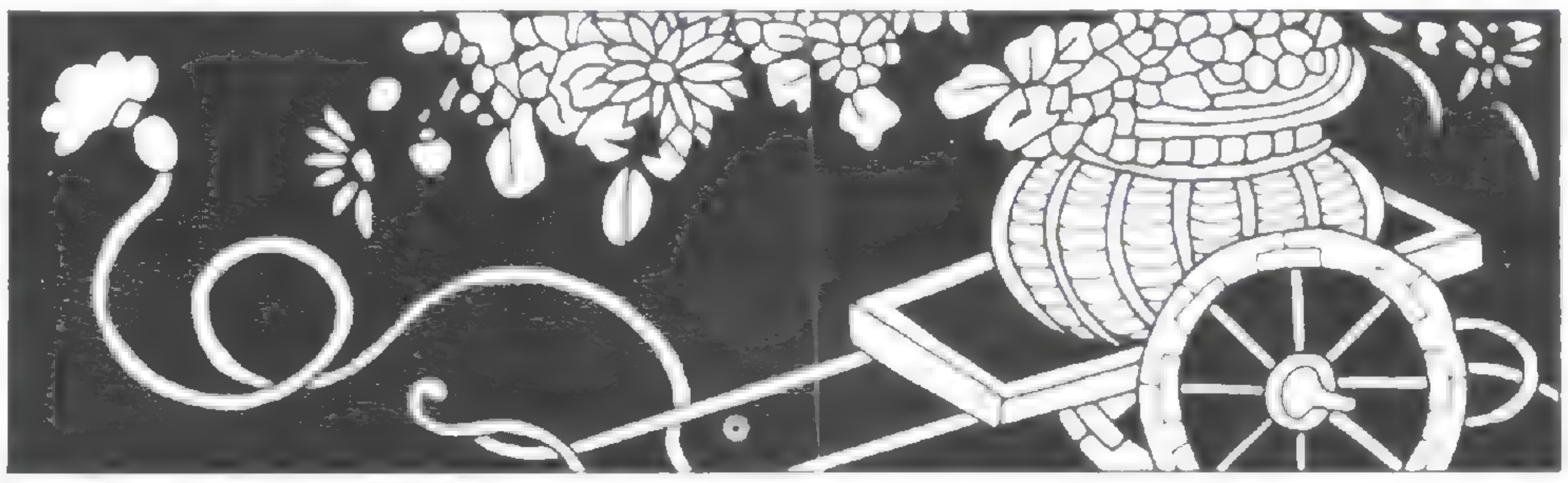
Purple Martin Day
Grounds
Come for wine and cheese and a rousing welcome home for the Garden's Purple Martins.

June 8-24

Henry Shaw Exhibit
Flora Gate
An exhibit from Chatsworth, the English garden that inspired Henry Shaw early in his life, resulting eventually in the Missouri Botanical Garden.

June 8

Rose Evening For Members
Lehmann & Gladney Rose Gardens
A special evening for Members to stroll through the gardens and enjoy the sweet scent of roses.



June 16-24

Japanese Festival
Grounds, Ridgway Center
Experience the culture, art, entertainment and cuisine of Japan in an exciting nine day festival. (See cover story for more information.)

June 28

Charles Marion Russell Preview
Monsanto Hall
A special preview for members to view the sculpture of Charles M. Russell.

June 29-August 5

Charles Marion Russell Exhibit
Monsanto Hall
An exhibit of bronze and silver sculpture by the noted Western artist Charles Marion Russell will be on display during Garden hours.

June 30

Members' Day
Arboretum
Enjoy a Wilderness Wagon Tour of the Arboretum. Reservations required by phoning 577-5186. Tours will be limited. At 10 and 11 a.m.

July

July 1

Day Lily Show
Orthwein Floral Hall
A gardener's favorite will be on display with a colorful burst of summer shades.

July 4

Picnic Day
Grounds
You are invited to bring baskets and blankets to enjoy an idyllic picnic on the Garden grounds.

July 7-29

Curiosities of the Plant World
Climatron
A diversity of rare and interesting plants will be exhibited in the Climatron.

July 12

Members' Day
Shoenberg Auditorium, John S. Lehmann Building
Dr. Peter H. Raven, Director of the Garden will lecture at 10:30 a.m. on "The Future of Tropical Plant Exploration."

The Herbarium will have Open House for Members from 11:30 a.m. to 3 p.m.. and from 2-3 p.m. meet Dr. Marshall Crosby, Director of Research and Dr. Nancy Morin, Administrative Curator of the Herbarium.

July 18-24

Victorian Fair
Grounds
Help celebrate the Garden's 125th Anniversary with a special Victorian flair. July 21 & 22 is an old fashioned day with home made ice cream and banjo music. Henry Shaw's Birthday Party will be a special day for children on July 24.

July 28

Members' Day
Library & Herbarium
Tour the rare book room, bindery and library at 10:30 a.m. or 2 p.m. or tour the amazing Herbarium with over 3 million plant specimens at 11 a.m. or 2:30 p.m. Reservations required by calling 577-5186.

July 29, 30, 31
August 1, 2, 3, 4

Childrens' Summer Film Festival
Shoenberg Auditorium
A full week of children's favorite films will be shown in the air-conditioned auditorium.

Notes from the Garden

Victorian Elegance Graces Benefit for Tower Grove House . . . A Successful Tradition

Zoe Lippman chats with Anne L. Lehmann.

Mimi Carnal, Peggy Jones and Pat Carnal (Chairwoman) compare notes

Lavish candlelight, classical music, and a delicious Victorian dinner that would astonish even Henry Shaw were all part of the Tower Grove House Benefit on April 7.

Mr. C. C. Johnson Spink, honorary chairman and Mrs. Jean-Jacques Carnal, chairwoman of the fund-raiser produced an evening filled with Victorian flair that even included a private party in the Tower Grove House for patrons. The Post-Dispatch reviewers call the organizers "maybe our town's best party-givers."

After a cocktail reception among the spring flowers, the guests enjoyed a mirage of wines, turtle soup, sole Veronique in crab sauce, red wine with lamb, chocolate crepes with chocolate mousse topped with fresh strawberries and cream, cheeses, fruit, coffees and port. Following the dinner, the CASA string ensemble performed classics of the Victorian era.

Receipts from the benefit total $51,562.50 and will provide a solid base for the funds needed to refurbish Henry Shaw's historic mansion. The Garden and organizers of the benefit send sincere appreciation along to all who so generously contributed.

The Tower Grove House Benefit Committee Members include Mrs. C. C. Johnson Spink, Mrs. Walter Ballinger, Mrs. Howard Blanc, Mrs. J.-J. Landers Carnal, Mrs. Pedrich Conway, Mrs. Dwight Coultas, Mrs. Ernest Eddy, Mrs. Richard Grote, Mrs. Lawrence Honig, Mrs. James Howe, Mrs. Charles Jones, Mrs. Harrison Lyman, Mrs. Sandford McDonnell, Mrs. Shadrach Morris, Mrs. John R. Musgrave, Mrs. Timon Primm, Mrs. Henry Schlapp, and Mrs. Victor Silber.

Edie Spink, Sophie Dennis, C. C. Johnson Spink (Honorary Chairman) pose in the Spink Gallery.

John S. Lehmann Building To Be Renovated

The growth and vigor of our botanical research program has resulted in its expansion throughout the John S. Lehmann Building. With 24 Ph.D's working here and in 10 tropical countries, and the herbarium, our library of dried plant specimens, reaching 3.2 million specimens, we now have the world's largest program in tropical botany. Since the opening of the Lehmann Building in 1972, over one million specimens have been added and this growth in the collection has necessitated more space.

The south wing of the Lehmann Building was vacated when the education department moved to the Ridgway Center and this area is providing the space for the growth of the research program. The work that will be done includes linking the south wing to the lower level herbarium by stairway, adding compactors for the plant specimens, and reconfiguring the library space to provide more room for the rare book collection and bindery.

The first major gift toward the $1.8 million project has been received from the Spencer T. and Ann W. Olin Foundation. The Foundation's $200,000 contribution provides impetus for the project with the renovation planned to begin in 1985.

Thomas B. Croat

Garden Scientist Publishes Major Work

Thomas B. Croat, Paul A. Schulze Curator of Botany and one of the most prolific plant collectors working in botancal research today, has published a maor work entitled, *A Revision of the Genus* Anthurium *(Araceae) of Mexico and Cenral America. Part I: Mexico and Middle America*. The genus *Anthurium* is recognized as a particularly difficult one because it contains over 700 species and must be approached in stages. This monograph by Croat revises 122 species rom Mexico and Middle America, conrasted with the last revision in 1905 which reported 58 species in Central America.

In order to complete this work Croat conducted field observations in Mexico and Central America during 1976, 1977 and 1979, and conducted studies in Panama since 1967. Croat also collects ive plants, many of them new discoveres, so that the Missouri Botanical Garden's collection of *Anthurium* includes all but 12 of 122 species. The collection allowed Croat to make extensive observations of living plants for his work.

Croat's study, which was completed with support from the National Science Foundation, represents an important expansion of botanical knowledge.

The most commonly recognized *Anhurium* species is one grown in Hawaii which has a very shiny red leaf generally mistaken for a flower. It is widely used by commercial florists for unusual arangements.

Monsanto Herbarium Donated to Garden

Monsanto Company recently donated its 4,000 specimen herbarium to the Missouri Botanical Garden for study by research scientists. The collection of plant specimens includes alpine plants from Switzerland, the Rocky Mountains of Canada and the United States, and a large proportion of grasses.

Specimens from the Monsanto Herbarium were primarily collected by the late Dr. Frederick Comte and his wife Alice. Other specimens were from a smaller collection by Herb Ploch, and some date back to the 1800's when they were collected by Dr. Comte's grandfather.

Dr. Comte, who was born in Switzerland, came to St. Louis to work for Monsanto in 1921. After his retirement in 1954, Monsanto provided annual grants to help defray the costs of the Comte's collecting expeditions. Dr. Comte classified the plants and his wife performed the meticulous job of mounting the specimens.

The Monsanto Herbarium will become part of the Garden's world famous Herbarium that contains well over 3 million plant specimens. Dr. Peter H. Raven, director of the Garden, called the donation "an important gift to science." He said, "Through this donation to the Garden, Monsanto has made these specimens available for study by researchers all over the world."

First Missouri Conference on State Parks

In order to exhibit concern for the conservation of state lands, and the future of Missouri's state parks and historic sites, the Missouri Botanical Garden is cosponsoring the First Missouri Conference on State Parks, with the host organization the Missouri Parks Association.

The conference is the first to be held in the sixty year history of Missouri State Parks and is open to members of the public who are concerned with the quality of life in Missouri. It will be held at Lindenwood College in St. Charles on June 15 through June 17.

Leading speakers will include Robin Winks, chairman of the National Park Service Advisory Board; Ney Landrum, director of the Florida Division of Recreation and Parks; and John Karel, director of the Missouri Division of Parks and Historic Preservation.

This year marks the 60th anniversary of the establishment of the first units in the Missouri state park system which today includes more than 70 parks and historic site embracing over 100,000 acres. Missouri's parks offer a wide range of recreational, natural and cultural opportunities for its citizens.

Persons who would like more information on the conference should contact the president of the Missouri Parks Association, Susan Flader, 917 Edgewood Avenue, Columbia, Missouri 65201 or phone (314) 882-2481.

Two Proud Traditions Honored

Congratulations and thank you's are in order for the Pitzman's Co. of Surveyors & Engineers. They are celebrating the 125th anniversary of their firm this year, and have also honored the Garden's 125th anniversary by providing discounted services for the Garden.

Henry Shaw and Major Julius Pitzman were contemporaries in 1859 when Shaw opened his garden to the public and Pitzman founded his company. According to Eddie B. Murry, vice president, "Pitzman Co. worked for the Missouri Botanical Garden as early as June 1900, when the line was set for Alfred and Magnolia."

When the Garden needed a complete topographic survey in 1972, it relied again on Pitzman for the survey which forms the basis of the current master plan. This year, thanks to Mr. Roy E. Leimberg, president of the company, the Garden is able to update its plans with a new survey. The current work includes the areas north of the greenhouses and the Climatron, and other areas which have experienced construction in recent years, like the Anne L. Lehmann Rose Garden.

As a thank you and congratulations from the Garden, Monsanto Hall was provided to Pitzman Co. employees, friends, and clients for their anniversary celebration in April.

Farewell to a Longtime Friend

Marion Pfeiffer

In 1947, there was no Climatron at the Garden, no Lehmann Rose Garden, no Ridgway Center. Harry S. Truman was in the White House, Ronald Reagan was in Hollywood and Marion Pfeiffer was just beginning work with the Missouri Botanical Garden.

When Marion first came to work at the Garden, the collection of 60,000 orchids was housed in eighteen greenhouses at the Arboretum in Gray Summit. The orchids are no longer at the Arboretum, but largely because of Marion's dedication, the Garden still has one of the best orchid collections in the world. For almost four decades (except for a brief period when she left to have a daughter) Marion has tended and cared for the orchids at the Garden. She estimates she has tended or transplanted orchids in the millions.

In a touching farewell to Marion Pfeiffer, Dr. Peter H. Raven said, "She has been such an integral part of the Garden's life for so long that it is hard to imagine what it will be like without her."

Happily, the Garden will not be long without her dedication and enthusiasm. After thirty-seven years of work here at the Garden, Marion has said she plans to come back as a volunteer.

Botany Field Day: An Adventure For All Ages

For the first time, visitors will have a chance to view the rare "behind the scenes" world of botanical research at the Missouri Botanical Garden. On Saturday, June 2, Botany Field Day will present that opportunity. The programs which are planned from 10:00 a.m. to 3:00 p.m. will provide something of interest for all family members.

Visitors will be able to compare plants collected hundreds of years ago with those collected this year, and can view the research collection as it looked in Henry Shaw's day. The fascinating "compactors" will be on display to show how the 3.2 million plant specimens are stored in today's world.

On the grounds, there will be a demonstration of the tree-climbing bicycle used by botanists in tropical countries and several participatory activities for both children and adults. Botany Field Day activities will include:

- Orientation activities, a book corner, a discovery room, and slide shows in the Ridgway Center.
- Tree identification, hand lens study, a demonstration of plant collecting techniques and the tree-climbing bicycle on the Garden grounds.
- A closer look at tropical plants, including unusual and edible plants in the Climatron.
- A look back over the history of the research program here at the Garden through exhibits and tours of the Museum Building.
- Tours of the modern Herbarium in the Lehmann Building where the Missouri Botanical Garden conducts the most active tropical botanical research program in the world.

A Big Hand for Garden Volunteers

Last year over 500 persons volur
teered over 49,000 hours of time to th
Missouri Botanical Garden. Volunteer
pitch in to help with tasks as varied a
designing marketing surveys to helpin
with maintenance of the grounds. Volur
teer Evening, a time to show appreciatio
has been scheduled for Thursday, Jun
14, 1984 in the Gladney Rose Garde
from 6:30 to 8:30 p.m. For more informa
tion on Volunteer Evening or how t
volunteer at the Garden, call 577-518

For The Young At Heart

Thanks to the generosity and insig
of Dr. and Mrs. Samuel D. Soule, the Ga
den is now offering a unique horticultu
program especially designed for activ
older adults. The Samuel D. Soule Cer
ter for Senior Citizens offers a variety
visits to the Garden followed by "hanc
on" learning experiences. The program
are planned to reflect the seasons an
will be held monthly. All programs ar
taught by the Garden's expert staff an
skilled volunteers.

Enrollment in the program is limite
to senior citizens sixty-five years of ag
and older. Membership in the Garden
not required and there is no charge fo
membership in the Center. A nomina
charge may be required for some mate
rials, but all fees will be announce
in advance.

Programs and their dates will be ar
nounced in a newsletter published b
the Center. Those who wish to becom
members of the Samuel D. Soule Cente
for Senior Citizens can pick up a mem
bership card at the ticket counter in th
Ridgway Center or can request a mem
bership card by calling the Educatio
Department at 577-5140.

Senior Citizens who would like to pa
ticipate but cannot come to a program
the Garden, may be able to take advar
tage of the Center's export programs
Export programs which will also b
announced in the newsletter are avai
able for on-site presentation to nursin
homes, retirement centers and senic
citizen groups.

All programs are participatory in na
ture and are designed to bring the Ga
den's unique cultural experience to th
lively older adult who cannot come t
the Garden.

Nora Stern and Harriett Bakewall shared the honor of turning the first shovelful of dirt on Arbor Day. Dr. Peter Raven and the seventh grade class of Mary Institute also participated in the ceremony which commemorated the 125th anniversaries of both the Missouri Botanical Garden and Mary Institute.

A Special Thank You

Art and Garden enthusiasts will miss Alexander Calder's "Red Curley Tail," which graced the west entrance of the Ridgway Center for almost a year. Originally installed as part of the Calder Retrospective Show last fall, Ronald Greenberg of Greenberg Gallery graciously allowed the work to stay in place until this Spring when it was shipped to Switzerland.

Daley to Join Massachusetts Horticultural Society

Richard H. Daley

Richard H. Daley, director of public programs at the Missouri Botanical Garden, will be leaving his post in June to become the executive director of the Massachusetts Horticultural Society. Daley first joined the Missouri Botanical Garden in 1973 to develop the Ecological Service Department.

Daley, who will become the chief officer of the oldest incorporated horticultural society in the country, said that his work with the Garden has been "an exciting and rewarding experience."

"I am looking forward to the challenge of directing an important botanical institution," Daley said, "but it is with the recognition that I was allowed the opportunity here at the Garden to grow and to refine the skills I will use in that position."

Daley said, "I am grateful to Dr. Raven for the numerous opportunities he has afforded me. There is no question," he continued, "that the past thirteen years have been most important in the history of the Garden because of Dr. Raven's leadership. I was pleased to have been a part of the efforts to establish the Garden as a vital part of the St. Louis community."

Dr. Peter H. Raven, director of the Garden, said, "Rick Daley has been a tremendous asset to the Garden for the last eleven years. He will especially be remembered for his tireless work towards establishing the Botanical Garden Subdistrict, both in the State Legislature and with the public. His efforts have helped insure the financial stability of the Garden for years to come."

Increased Support

Contributing Members

Dr. Elliot E. Abbey
Mr. and Mrs. Harry Abeln
Mr. and Mrs. Arthur W. Anderson
Ms. Janet L. Angelica
Mr. Jack Ansehl
Mr. and Mrs. Robert J. Balske
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Ms. Beverly Bross
Mr. and Mrs. Rayford K. Brown
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Mr. Steve Sherwood

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The Pillsbury Company
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March-April 1984

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(continued on next page)

125th Anniversary Commemorative Rose

Boehm Studios has produced an exquisite porcelain rose in honor of the 125th Anniversary of the Missouri Botanical Garden. Named the "Shaw Rose," this particular sculpture will be available no where else in the world. The delicate, pale pink rose is set on a beautiful bronzed leaf, approximately three inches long. The commemorative "Shaw Rose" will sell for $65 at the Garden Gate Shop.

Walk-In Plant Clinic Now Available

The Answer Service is now condu ing a walk-in plant clinic for those w need help in identifying plants, or pla problems. The Plant Clinic will opera the same hours as the Answer Servi which are from 9 a.m. to 12 p.m., Mond through Saturday, The Plant Clinic located in the Flora Gate Building. P sons using the Plant Clinic are asked enter through the Ridgway Center 4344 Shaw, and to bring their plants plastic bags to avoid any spread of c ease to the Garden grounds.

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. . . Opening of Bonsai Show with Ben Oki
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olume LXXII, Number 5
ugust 1984

Missouri Botanical Garden Bulletin

Vorld Premiere of Haas Work at the Garden

Ernst Haas, perhaps the best known nd most popular color photographer orking today, will unveil his *Flower Portlio* to the public for the first time at the Iissouri Botanical Garden in August. he exhibit, which will be on display to ne public from August 9 through Sepember 3, includes 12 large (16″ x 20″) ye-transfer photo prints. The prints of owers were all hand-selected by Haas. he portfolio includes a delicate balance f flowers photographed in six continents ver an eight-year period. Of special iterest to Garden Members are two phoographs that were taken here at the Misouri Botanical Garden.

The *Flower Portfolio* is a limited edion that will be for sale for $5,000 through ne Garden Gate Shop, with a portion of ne sale benefitting the Missouri Botancal Garden.

Haas has also created a special ower slide presentation with original usic by St. Louis composer Tom Hamilon. A special Members Only preview of the slide presentation nd the exhibit will be held on Wednesday, August 8 from 5:30 to :00 p.m. The slide presentation by Haas will be at 6:30. The review exhibit and slide show are open to Garden Members nly and there is no charge.

On Thursday, August 9, Haas will be available to autograph opies of his most popular book The Creation from 10:00 a.m. to :00 p.m. The book is available from the Garden Gate Shop.

Friday, the slide presentation will be shown to the public at :00 p.m. in Shoenberg Auditorium. The charge for the presenation is $3 per person.

On Saturday, August 11, Haas will conduct a special phoographer's walk through the Garden beginning at 8:30 a.m. he walk will be followed by breakfast on the Terrace. Reservaons are limited for the walk, and the charge is $75 per person. lease call 577-5125 for reservations.

Ernst Haas

rnst Haas: A Symphony for the enses and the Intellect

Ernst Haas was born in Vienna in 1921, surrounded by the usic, painting and rich culture of that ideal time and place. As a hild he studied painting—but wanted nothing more than to be explorer when he grew up. The outbreak of war in 1939 nded the magic of childhood dreams. Haas, like other youth of s age, was trained in many organizations and finally transferred to the Air Force and was sent to Czechoslovakia. The war, the dictatorship, and the years of constraint only served to deepen his urge to travel.

It was not until the end of the war, at the age of 25, that Haas purchased his first camera (on the black market). His earliest works were abstract. But inspired by the work of Werner Bischof, he began documenting the people around him and the aftermath of war.

In 1948, Haas accidently happened on the scenes that were to bring him international attention. While looking for a fashion location, he found instead the returning Austrian prisoners of war. Those photos were first published in *Huete*, and then picked up by *Life*. They led to an invitation to join Magnum, the international photo agency with Robert Capa and Cartier-Bressón, and an offer to work for *Life Magazine*.

With characteristic confidence, Haas accepted the invitation to join Magnum and declined the offer to work for *Life*. But in 1950, he came to the United States and unleashed his appetite for color photography. For the next two decades he stunned the readers of *Holiday, Esquire, Look, Life* and *Paris Match* with his special vision. His motion study photos from that period are still copied by photographers today.

For a while in the Sixties, Haas worked with motion pictures, only to turn before long to a new project. Haas's first book The Creation, was magnificent. It deviated in its format from tradi-

(continued on page 4)

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The MISSOURI BOTANICAL GARDE BULLETIN is published seven times year, in February, April, May, Jun August, October, and December by th Missouri Botanical Garden, 2345 Towe Grove, St. Louis, Mo. 63110. Second Clas postage paid at St. Louis, Mo. $12.00 pe year. $15 foreign.

The **Missouri Botanical Garde Bulletin** is sent to every Member of th Garden as one of the benefits of the membership. For a contribution as little a $30 per year, Members also are entitle to: free admission to the Garden, Sha Arboretum, and Tower Grove House; i vitations to special events and reception announcements of all lectures an classes; discounts in the Garden shop and for course fees; and the opportunit to travel, domestic and abroad, with othe Members. For information, please ca 577-5100.

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Comment

Twelve years ago when the John S. Lehmann Building was dedicated, the Garden's research program was carried out by a staff of five scientists with the help of a support staff of four. One overseas station was maintained, in the then Panama Canal Zone, as part of the Flora of Panama Project, begun in the 1930s. The herbarium, stored in revolutionarily new compactors, numbered just over two illion specimens. The compactors were designed to hold three illion specimens.

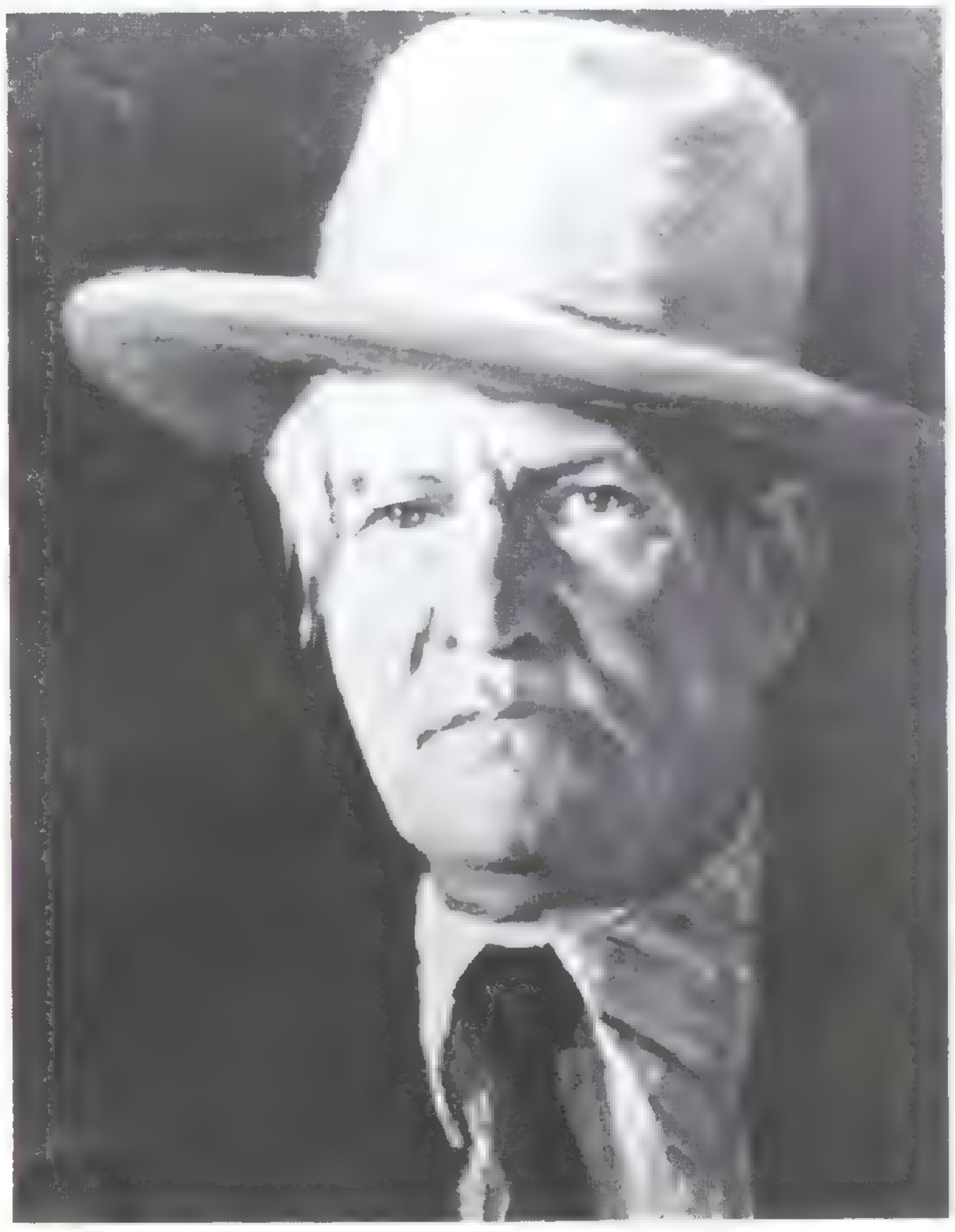
Recognizing the urgency of exploring and inventorying the pidly disappearing tropical forests, our research program is grown to include 27 scientists and 37 support staff. Some of r scientists are permanently stationed abroad, in nine differ- t tropical countries, where they can most efficiently carry out eir programs and aid others who may visit them for varying ngths of time or who may request specific research speci- ens. Our programs generate thousands of new specimens, id others are acquired through exchanges, purchases and as gifts. The herbarium now numbers over 3.2 million specimens and grows by some 80,000 new specimens each year. The Lehmann Building, which remains one of the most modern and beautiful of its kind, is no longer adequate to meet our needs in its present configuration.

The completion of the Ridgway Center, with its auditorium and education facilities, in 1982, freed the south wing of the Lehman Building for expansion of the research facilities. In 1983 a major study of the functions and needs of the programs in the Lehmann Building resulted in a master plan for renovation and expansion of activities into the south wing.

We have begun the fund raising for implementing the renovation, which includes two new compactors, additional office-laboratory space, and improving the library facility, and have received a gift of $200,000 from the Spencer T. and Ann W. Olin Foundation. The cost of the project will be $1.8 million and we hope to begin work in 1985.

Peter H. Raven

Above) What could be more pleasant han luncheon al fresco? Nothing— nless it is luncheon al fresco at the lissouri Botanical Garden. The beautiful ew Dining Terrace is open for a leisurely inch, dinner or drink.



Right) There is still time to catch the tunning exhibit of sculpture by Charles larion Russell at Monsanto Hall of the idgway Center. The show, which runs hrough August 5, showcases forty ieces of sculpture by this famous artist.

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Sayonara For Another Year

Nine days and more than 56,000 people later, the 1984 Japanese Festival at the Missouri Botanical Garden drew to a close. With the continued generous support of The Seven-Up Company, this year's festival entertained almost 25% more people than the previous year.

Not only was the festival an opportunity for visitors to immerse themselves in the Japanese culture, it presented a unique opportunity for the Garden to showcase its beauty to visitors from all over the country.

To The Seven-Up Company, the volunteers, the staff and the Members—Thank you for making this year's festival the most successful in our nine year tradition.

Ernst Haas: A Symphony for the Senses and the Intellect

(continued from page 1)

tional photography books and thus opened the way for others to follow. The Creation was and still is, overwhelmingly successful with the public. It was followed by other books, In America, In Germany and Himalayan Pilgrimage.

Recently, Haas has begun to draw even deeper on his childhood influences and his early motion studies, as he has moved into audiovisuals. The latest subject of his passion has been the flower. His new slide presentation is not as expected a parade of still shots of flowers, one after another. It is instead a symphony for the senses and intellect.

For the world premiere of his *Flower Portfolio* at the Missouri Botanical Garden, Haas has had an original musical composition by St. Louis composer Tom Hamilton created for the slide presentation. It is sure to be a rare experience and one not to be missed.

Haas seems finally to have combined the essense of all th things he seeks: The still photo that moves, color that is tactil and natural composition that appears orchestrated. It is difficu to determine if the presentation is prepared for the gourmet c gourmand in the audience. It is, perhaps, for both. It certainl tests the limits of color, sound and movement.

The magnificent *Flower Portfolio* consists of 12 large print created with a special dye-transfer process. The color in th prints is so rich that it appears almost three-dimensional. Th color, form, texture and composition of the prints definitely riva the subject matter for ascendency.

Haas says of himself, "I would have loved to be a painter an composer." That kind of striving for an art without limits certainl shows in the beauty of his latest work.

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Remember Members' Days

Twice in August and twice in September, Members' Days are planned. On those days, Members will receive free tram rides, an additional five percent (5%) discount on plant purchases, and a special price on one item in the Gardenview Restaurant. The Garden Gate Shop will also offer special Member's Only sale items. In addition, each Member may bring two guests, free of admission charge, to the Garden.

August Days

Before most plants and shrubs have gone to seed or lost their leaves, consider some ways to preserve and enjoy their beauty and scent throughout the year. On **Wednesday, August 8**, Barbara O'Brien will demonstrate "Drying and Using Decorative Plant Material," including herbal wreaths. Missouri Room of the Ridgway Center at 10:00 a.m.

Since the Japanese Festival sparks fresh interest in all things Nipponese, on **Saturday, August 25**, the teahouse in the Japanese Garden will be opened to a limited number of Members for a presentation on the origin and significance of the tea ceremony. 10:00 a.m. and 11:00 a.m. Reservations for this are required and may be made by phoning 577-5186.

September Days

To help Members make good choices for landscape plantings this fall, Brian Ward, Landscape Gardener, will present slides, information and recommendations on "Bulbs and Herbaceous Perennials for This Region," on **Tuesday, September 11** at 10:00 a.m., in the Garden Room of the Ridgway Center. (This program immediately precedes the Fall Plant Sale on September 13 and 14 when many bulbs and perennials will be available.)

Did You Miss A Members' Day?

These Garden stickers are a helpful reminder of Members' Day activities. Just peel them off and place them on your calendar to mark the special days planned just for you.

The Ultimate Members' Day: Saturday, September 22

Every true anniversary celebrates that which is here and now, in remembrance of what was then and there. To cap this salute to the present realization of Henry Shaw's vision, the Executive Board of the Members will host a proud and joyful public observance—from 9:00 a.m. until 9:00 p.m. Missouri Fiddlers, barbershop quartets, and Viennese Serenaders will provide nostalgic harmony, while square dancers, clowns, balloon men and the Shirt Tail personalities from Six Flags will add lively diversion.

There will be puppet shows at 10:30 a.m. and 1:30 p.m., and a magician will take the stage at 11:30 a.m. and at 2:30 p.m. Booths and stands for all kinds of refreshments will be placed throughout the Garden. At dusk, a full-blown fireworks display—worthy of a true gala—will arch over the amphitheater, concluding this grand event.

Newly elected officers for the Executive Board of the Members are shown from left: Mrs. Charles (Sue) Oertli, First Vice President; Mr. Jack Jennings, Second Vice President; Mrs. Walter G. (Nora) Stern, president; and Mrs. Henry (Ellen) Dubinsky, treasurer. Mrs. Andrew (Jean) Zinsmeyer not shown, was elected secretary.

New board members for the Executive Board of the Members are standing from left: Mr. John Fuller, Mr. William Dooley, Mr. David Wells. Seated from left: Mrs. Willard L. (Alice) Levy, Mrs. Edward M. (Dee Dee) Stivers, Mrs. Stephen F. (Kimmy) Brauer, and Mrs. Forrest J. (Mico) Murphy.

Gardening in St. Louis

Summer Watering

Plants are 75 to 95 percent water. Throughout the life of a leaf-lettuce plant, it uses 9 inches of water, a cucumber or watermelon plant uses about 15 inches, and a tomato plant needs about 24 inches. A large shade tree can transpire (lose water through its leaves) up to 100 gallons of water per day!

During a hot St. Louis summer, supplementary watering is usually needed to provide optimum growing conditions. Knowing when and how much to water are important and perplexing questions which a gardener needs to have answered.

When plants don't have enough water, they flag or wilt. If this wilting occurs during the heat of the day, the ground is damp, and the plants recover their stiffness by early evening, then this is nothing to worry about. This is a temporary wilt that commonly occurs to succulent plant growth. It happens when the leaves lose water quicker than the plants can absorb water from their roots. In this situation no permanent harm is done. If the plants, however, do not recover and regain their stiffness by early morning, it means it's time to water. Do not wait for the leaves to shrivel. Once the leaves have curled and dried, permanent tissue damage has resulted and these plants will never recover. The ideal is never to stress the plants to this degree.

Experienced gardeners will notice that water-stressed plants look different. Their leaves become dull and gray-green or blue-green. This is also a sign that it is time to water.

Certain gardening gadgets or devices can help in determining the correct time to water. Moisture meters, which measure water tension, can be very useful, especially for containe plants. At a certain point, this instrument will tell you whe the water tension is too great and thus when water should b applied to the plant. The most dependable tool to use, thoug is your finger. Stick it about ½ inch into the soil to gauge i moisture level.

In general, it is always best to water deeply and infrequentl Shallow, repeated waterings lead to poorly developed root sy tems which are most susceptible to further drought damage. T get water deep into the soil you must apply it uniformly an slowly. This is why drip irrigation is so beneficial. If you are goin to apply water using an oscillating or rotary sprinkler, do it ear in the day and when the air is still so that not much of it will b evaporated into the air.

If plants are not watered when they should be, severa undesirable effects result. Bluegrass turns brown and goes do mant; it will recover when cool, damp weather returns in the fa Zoysia turns brown temporarily. Annual and perennial flowe buds dry-up and branches of trees and shrubs slow down the growth and fruits don't fully develop. Vegetables show wate stress in various ways. Tomatoes and squash develop cracks i their fruits, their leaves curl, and their fruits develop blosso end-rot (the ends of the fruits turn black). Corn especially need water after it tassles and the kernels start to develop. Withou adequate moisture, corn will give a poor yield. Potatoes als show their dissatisfaction for hot, dry weather by producin knobby roots. Lettuce, which is very sensitive to drought, w develop burns on the tips of the leaves and in many cases w go to seed sooner than usual.

Vegetables do have critical periods in which they need water.
, if you only water at one time, do it at these important times.
eans need water most after the plants have flowered and the
ds are developing. For broccoli, it is critical that it be watered
hen the head is forming and enlarging. Corn needs moisture
hen it is in silk and the ears are starting to fill-out with kernels.
nions need water for bulb formation and peas need it most crit-
lly after flowering and when the pods are starting to fill-out. As
on as the blossoms have set and the fruits are starting to en-
ge, tomatoes need a large amount of water to develop.

Unfortunately, water stress also leads to other problems.
ought-weakened plants are more vulnerable to disease such
powdery mildew and various blights. They become prone to
sect damage, especially spider mites. High evening temper-
ures and water stress can cause pepper and tomato blossoms
abort or fall off without forming fruit.

As a general guideline, most plants need about 1″ of water
r week. This 1″ can consist of all natural rainfall, all irrigation
ter or combination of the two. You can gauge the amount of
ter that has fallen in your garden by installing a rain gauge. If
u don't buy a rain gauge, you can use a straight-sided jar
arked in one-fourth increments. Use this to measure the
eekly rainfall. As soon as you know what this rainfall is, you can
just your watering practice accordingly.

One inch of water per week amounts to about 62 gallons for
ery hundred square feet of gardening area. I have included
th this article a Watering Chart (see below) from H. B. Sher-
an Manufacturing. It was designed to be used with their "Time
ff Water Timer." This handy timer measures water output with-
t electricity; it is operated by water flow. Using this device, it is
simple matter to determine the correct amount of water
eeded for a specific area.

Watering Chart

Number of gallons and settings to deliver approximately 1″ of water:

Area Covered in Feet		Gallons	Settings
10′ x 15′	150 sq. ft.	100	1
10′ x 30′	300 sq. ft.	200	2
20′ x 30′	600 sq. ft.	400	4
30′ x 40′	1200 sq. ft.	800	8
40′ x 50′	2000 sq. ft.	1200	12
45′ x 50′	2250 sq. ft.	1400	14

There are many methods used to apply water. The most
ommon, and usually the least effective, is hand watering. This
stem is usually only recommended for watering young plants
container plants. Trying to hand water the lawn, large trees,
rubs, or established vegetable gardens is neither practical nor
commended. It is very unlikely that anyone would have the
me or the patience to hold a hose the length of time it would be
ecessary to permit deep penetration of water to plant roots. As
example, it usually takes 4 hours or longer to adequately
ater the lawn!

When you do hand water, be sure to use a high-quality water
reaker like the Dramm Water Breaker to "soften" the water
ream and thus prevent plant roots from being washed out and
amaged.

The rotary sprinkler is commonly used to water lawns. It is an inexpensive sprinkler which usually distributes water too quickly to allow the ground to absorb it. If you have such a sprinkler, you may have to use it alternately turning it off and on to allow the water to penetrate. For example, you could run your sprinkler for 10 minutes and turn if off for 20 minutes and then run it for 10 minutes again. You should continue to do this until the ground is drenched.

The oscillating sprinkler is probably the most common and frequently-used watering device for the garden. It distributes the water in somewhat of a fan shape. It does not distribute water quite as quickly as the rotary sprinkler, so there is usually more time for the water to penetrate the soil. Like the rotary sprinkler, however, it does distribute the water somewhat unevenly. Those points at the edge of the fan pattern will usually receive the most water, with those points closer to the sprinkler not receiving as much moisture. You can determine the water distribution and volume of output of your sprinkler by placing straight-sided containers several places within the watering range of this sprinkler. This is an easy way to gauge when you have applied a half-inch or an inch of water. It is best to use oscillating sprinklers in the morning when it is cool so that less water will be evaporated before it hits the ground and so that the wet foliage will have time to dry-out before the evening.

Impact sprinklers are those types used often by commercial growers and are seen frequently at golf courses. These sprinklers are popular because they are able to be precisely adjusted to deliver water to specific areas. These sprinklers can be expensive, but are very useful.

Furrow irrigation is used in vegetable gardens where all the plants are grown in rows. The furrows are dug beside the plants and these furrows are then filled with water. Water is left in these furrows for several hours. With this system, no water touches the foliage. The water saturates the soil and is absorbed by the roots.

Basin irrigation is somewhat similar to the furrow system. It is commonly used with trees and shrubs. A moat, 1 to 4 feet in diameter, is created by a circular ridge of soil around the tree or shrub. This cavity or basin is filled with water which then gradually percolates into the soil to the plant roots. This system is effective, but can be time consuming if it is used with many plants.

Soaker hoses are used to water lawns, flower beds, and vegetables. Two sorts are commonly sold—a sprinkling and a soaking type. The sprinkling type is OK for watering lawn areas, flower beds and vegetable gardens. The soaker, which is usually made of canvas, is a better choice for deep watering of trees and shrubs.

Drip irrigation is a fairly new idea in watering. It involves a controlled application of water at a very low rate which is delivered to a specific area or plant. It is being used extensively by commercial fruit and vegetable growers and is becoming more popular with amateur gardeners throughout the world.

—Steven A. Frowine, Public Horticulture Specialist

FOR Younger MEMBERS

Match It Up—Color, Texture, Shape

What color is a bluet? What is the shape of a bleeding heart? Have you ever felt a lamb's ear leaf? Each of these plants bears a name that describes its color, texture, or shape. Some leaves are shaped like hearts or triangles. Others are fuzzy or soft as cotton. Flowers can be found in any number of colors, shapes or sizes. Take a late summer walk through your neighborhood. See how many different colors, textures, or shapes you can find in nature.

You will need: box of crayons; tempera paints (blue, red, yellow, white); fabric scraps of different textures (soft, coarse, bumpy, smooth, etc.); shapes cut from cardboard (heart, circle, oval, triangle, rectangle, square, etc.); paper for painting or drawing.

What to do: Pick a favorite place to take your "matching walks." It can be your neighborhood, a park, or your own yard. On your first walk, take along a box of crayons. See if you can match some of nature's colors to the colors of the crayons. Look for brightly colored flowers and different shades of bark. How many colors can you match? When you come home, mix some tempera paint colors together to match the colors you discovered in nature. You can make lighter shades of each color simply by adding white paint. Paint some pictures of the plants you saw.

During your next walk, carry the fabric scrapes and try to match them to the textures of plants you see. Look for leaves that feel smooth, prickly, or fuzzy. Feel the bark of trees along the way.

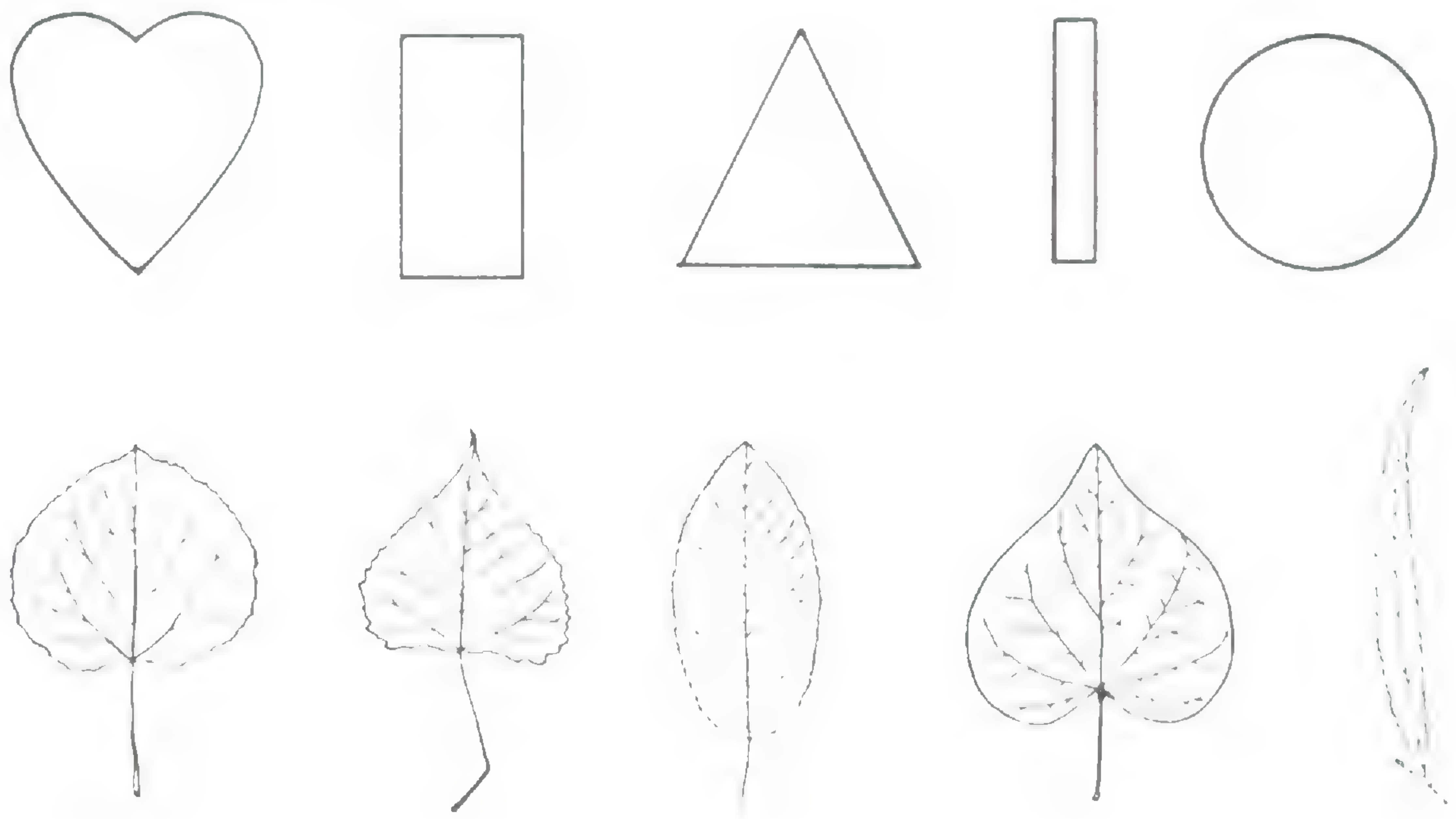
Your last walk can be a search for nature's shapes. Using the shapes cut from cardboard as a guide, try to find matching shapes in the parts of plants. Look at bark, flowers, leaves and seeds. How many shapes can you match?

Some of the plant parts you match may have fallen to the ground from trees or shrubs. Collect these parts to bring back home. Show your friends or your family what you discovered on your "matching" walks. Draw pictures of the plants you found.

The next time you visit the Missouri Botanical Garden, look carefully for nature's colors, shapes and textures. You will be surprised at how many more kinds you will discover!

—Ilene Follman
Education Consultant

Draw a line from the figure in the top row to the leaf in the bottom row with the most similar shape.



Saturday Morning Activities for Families

October 6	A Pot For Your Plant
October 13	Cloning Concepts
October 27	Lives of the Dinosaurs
November 3	Bulb Forcing
November 17	Grocery Store Botany
December 1	Cahokia—A Prehistoric City
December 15	Exploring the Winter Sky

All the classes are held from 10:30 a.m. until noon in the Ridgway Center. Prices vary for programs. For registration, see the fall adult class brochure or call 577-5140.

Summer Film Fest For Kids

The Summer Film Fest for children, which started on July 1, continues August 1 through August 4. The films begin at 12 noon in Shoenberg Auditorium of the Ridgway Center. Admission is $1 for Garden Members and $1.50 for non-members. The remaining schedule is:

August 1	*"Blackbeard's Ghost"*
August 2	*"Gulliver's Travels"*
August 3	*"Dumbo"*
August 4	*"Snow White"*

CALENDAR

August

August 1, 2, 3, 4	**Summer Film Fest for Kids** Children's films continue into August at 12 noon in Shoenberg Auditorium.

August 4 & 5	**Urban Gardening Fair** Gardeners from all over the metropolitan area will bring their fruits, vegetables, flowers and canned goods for judging at the Garden. 9 a.m. to 7:30 p.m.
August 8	**Members' Preview** A special preview of Ernst Haas' *Flower Portfolio*, and an audiovisual presentation by the artist. Preview from 5:30 to 8:00 p.m. Presentation at 6:30 p.m. Shoenberg Auditorium.
August 9-September 3	**Ernst Haas Exhibit** The world premiere of *Flower Portfolio*, a collection of twelve stunning flower photographs. Monsanto Hall.
August 9	**Ernst Haas Autographs** The world famous photographer will be at the Ridgway Center from 10:00 a.m. to 2:00 p.m. to autograph copies of his book The Creation, which is for sale in the Garden Gate Shop.
August 11	**Photographers' Walk** Ernst Haas will guide a special photographers' walk through the Garden followed by breakfast on the Terrace. Begins at 8:30 a.m. The charge is $75 per person and reservations can be made by calling 577-5125.

August 11 & 12	**Parenting Fair at the Garden** Two full days of exhibits, seminars, films, and entertainment for parents and soon-to-be parents, in the Ridgway Center. Sat., 10 a.m. to 7 p.m. Sun., 10 a.m. to 5 p.m.
August 25-September 3	**Cactus Society Show** Orthwein Floral Hall will be filled with the pretty and the prickly as the Cactus Society shows and judges the best specimens. 9 a.m. to 7:30 p.m.

September

September 1-30	**Bromeliads** These fascinating plants will be showcased in the Climatron near their tropical neighbors.
September 3	**Picnic Day** Spend Labor Day at the Garden with a leisurely walk. The Gardenview Restaurant will feature a picnic-like lunch.
September 4, 11, 18, 25	**Connections** The popular films series will be shown at the Garden free to the public. The series, which continues on Tuesday nights through November 6, depicts the social growth of mankind in relation to science.

September 8 & 9	**Rose Weekend** A romantic encounter with wine and roses. Take the time to smell the roses in two of the finest rose gardens in the country.
September 6	**Members' Preview** A special preview for Members Only of a lovely photographic exhibit by Elaine Blatt. 4 pm. to 6 p.m.
September 6-October 8	**Elaine Blatt at the Garden** The recent works of St. Louis photographer Elaine Blatt will be exhibited in Monsanto Hall. Of special interest to Garden friends is her beautiful series of water lily prints.
September 13 & 14	**Members' Days Fall Plant Sale** Great discounts on fall gardening needs, including Dutch bulbs for Spring and great savings for your Christmas list. Discounts apply in both the plant and gift shops, Garden Gate Shop and Orthwein Floral Hall.
September 15 & 16	**Fall Plant Sale** The sale continues two more days with the Garden Gate Shop and Orthwein Floral Hall full of good gardening buys.
September 22 & 23	**Men's Garden Club Show** Orthwein Floral Hall will be filled with the best of the season for display and judging. 9 a.m. to 7:30 p.m.
September 29 & 30	**Dahlia Society Show** See the best varieties of dahlia displayed and judged in Orthwein Floral Hall. 9 a.m. to 7:30 p.m.
September 30	**St. Louis Chamber Chorus** Music For Chorus and Brass with selections by Purcell, Bruckner, Schumann, Handel, Della Joio, and Scarlatti. At 3:00 p.m. Shoenberg Auditorium. Music director and conductor is Dr. Stephen Curtis. Call 721-7212 for tickets and information.

Parenting Fair at the Garden

Kids In The Middle and Progressive Youth Center, two area non-profit agencies, will present a unique new event at the Missouri Botanical Garden on August 11 and 12. According to Linda Youngblood, executive director of Kids In The Middle, "Healthy parenting is definitely a topic of the '80s. There are thousands of parents and soon-to-be parents in St. Louis that need and want comprehensive information on successful parenting. The purpose of this fair is to provide that information."

The two-day event will consist of on-going exhibits, seminars, lectures, films and entertainment. Information, services and products of interest to expectant parents through parents of adolescents will be presented by area organizations and businesses.

The hours for the Parenting Fair are Saturday, August 11, from 10:00 a.m. to 7:00 p.m. and Sunday, August 12, from 10:00 a.m. to 5:00 p.m. In addition to regular admission to the Garden, visitors will pay a minimal admission to the Fair. Admission to the Parenting Fair is $1.50 for ages 16 and over, 50¢ for children 13 to 15, and children under 13 are free.

Entertainment plans include strolling mimes, magicians, jugglers, clowns and characters from Six Flags. The "Food Groupies" from The Saint Mary's Health Center will perform on Saturday. Two major theatre performances are planned for the Shoenberg Auditorium, one at 6:00 p.m. Saturday, the other at 1:00 p.m. on Sunday.

Seminars for the two-day Parenting Fair include topics as diverse as "Birthing Alternatives," "Arts in the Family," "Children and Death" and "Choosing the Ideal Preschool." Twenty non-profit organizations, which provide services related to children and parenting, will have booths in the Jordon Education Wing There will also be a "resource corner" in that area with printed materials on a wide range of topics.

Exhibitors in the Orthwein Floral Hall will include a variety o businesses that provide child related products and services Some of the many exhibitors include Martha Rounds Academy For Children, IBM, Discovery Toys, Richeda-Brace Family Dental Association, Rick Benkoff Photography, a large number o healthcare organizations and other parenting related services.

For more information on the Parenting Fair At The Garden please call 726-5588.

Missouri Historical Society Salutes the Garden

The summer issue of "Gateway Heritage," which is published by the Missouri Historical Society, will be totally dedicated to the Missouri Botanical Garden, its history and its years of service. As a salute to the 125th Anniversary of the Garden, "Gateway Heritage" has included articles on the Gardens by such notables as Peter H. Raven, Barbara Perry Lawton, Father William B. Faherty, James Neal Primm and Gerhardt Kramer.

Glenn Hensley, editor of "Gateway Heritage," called the issue "one of the most exciting in recent years." The articles explore the unique history and architecture of the Garden, and take a detailed look at Henry Shaw and his enduring legacy. The features are illustrated with historical photographs and memorabilia, some never before published.

By special arrangement with the Missouri Historical Society, this issue of "Gateway Heritage" is available to Garden Members through the Garden Gate Shop, or through the mail from the Garden. The price per copy is $5, which includes postage for mailing. If purchased at the Garden Gate Shop, Members' discounts do apply. Order now to assure your commemorative copy of the "Gateway Heritage."

Please send me________copies of Summer 1984 "Gateway Heritage." I have enclosed____($5 per copy). Send to:

Name____________________

Address____________________

City____________State________Zipcode________

Once In A Lifetime Poster

Thanks to Hellmuth, Obata & Kassabaum, Inc. (HOK), the Missouri Botanical Garden has a very unique view of its 125th Anniversary Garden. HOK has provided design and production work on a poster that depicts an aerial view of the Garden grounds. The intricate detailing of the illustration shows the grounds as they appear right now in time, and details every corner of the Garden's 79 acres. Special thanks are due to Scott Hueting and Bob Wattel, both of HOK, who designed and managed the project from beginning to end.

The 125th Anniversary commemorative poster is available for $10 through the Garden Gate Shop. But hurry, you won't want to miss this special bird's eye view of the Garden.

$5.00
Gateway HERITAGE
SUMMER 1984
QUARTERLY JOURNAL OF THE MISSOURI HISTORICAL SOCIETY—ST. LOUIS, MISSOURI
THE MISSOURI BOTANICAL GARDEN
125th ANNIVERSARY
1859 1984

The commemorative issue of "Gateway Heritage," which focuses on the Garden's history, uses the 125th Anniversary poster for its cover.

Dedicated Volunteers Honored

Last year more than 500 persons volunteered more than 49,000 hours at the Missouri Botanical Garden. In recognition of the tremendous time and talent donated to the Garden, a special Volunteer Evening was held in June. Three persons were selected to be honored for exceptional contributions to the Garden.

Carol Taxman was honored for her unique commitment. Mrs. Taxman is the coordinator of the Master Gardener program and is the former volunteer director for the Garden. Isabelle Morris was presented the special services award. Mrs. Morris, who is past president of the Executive Board of the Members, is also a Master Gardener and the co-founder of the Guides program. The achievement award was given to Kaye Quentin who volunteered in horticulture in the Climatron and did the tedious work of updating the curatorial files.

Two other exceptional persons were honored on Volunteer Evening. Dan O'Gorman and Cliff Rhoades were saluted as the two remaining volunteers of the original Answer Service.

Dr. Robert Taxman accepts the award for volunteer commitment for his wife Carol from Dr. Peter Raven.

Dr. Peter Raven presents the volunteer special services award to Isabelle Morris.

Kaye Quentin is honored by Dr. Peter Raven for volunteer achievement.

(Left to right) Cliff Rhoades, Volunteer Director Jeanne McGilligan, and Dan O'Gorman on Volunteer Evening.

Notes from the Garden

Carol Unger, director of personnel, and Dr. Peter H. Raven, had the pleasure of sharing a luncheon with employees recognized for Garden service

Garden Recognizes Career Employees

During a special luncheon and recognition ceremony, the Missouri Botanical Garden honored its many career employees for their contributions to the Garden. Dr. Peter H. Raven said, "It is the knowledge and experience, the competence and reliability of the Garden's career employees that form a basis from which the Garden can successfully challenge its future.

The Service Recognition program is newly implemented to show appreciation as employees reach significant milestones in their careers. Employees are recognized for five year increments in their Garden employment. Carla Lange, assistant librarian, and Leonardo Mourre, a plant mounter, were both honored for 20 years of service.

Those with 15 or more years of service included Philipp Frankel, Margaret Glenn, Tom Croat, Marshall Crosby, Steve Wolff, Bill Davit, and Mary Margaret Purk. Seventeen employees were recognized for 10 or more years of service, and twenty-nine employees were honored for five or more years of service.

Help Keep the Arboretum Beautiful

August 25 is this year's Operation Clean Stream, a day to clean up trash in the Meremec River. Volunteers, employees, and Garden Members are invited to pitch in for a few morning hours to clean the portion of the river that flows through the Arboretum. Experience is not necessary, but enthusiasm is required. Organizers are also seeking a canoe. There will be a picnic provided for workers after the clean-up. For more information, to sign-up or to volunteer a canoe, call Kimberly Perry at 694-8875 or Dave Wilson at 577-5147.

Ridgway Center Honors Continue

The Ridgway Center, designed by Hellmuth, Obata & Kassabaum, Inc., has been given the first honor award for interiors by the American Institute of Architects, St. Louis Chapter. The juried competition was judged by architects from Houston, who selected the Ridgway interiors as exceptional

The Ridgway Center is also being featured internationally for its remarkable style. In July, "Architectural Review" which is published in Britain, will showcase the Ridgway in its international issue.

Did You Know...

. . . Jojoba from the Sonoran Desert produces a good substitute for sperm whale oil?

. . . Yams from Mexico made the contraceptive pill industry possible?

. . . An herb from the banks of the Amazon produces Carnuba wax?

. . . African chrysanthemums produce the safe insecticide pyrethrum?

. . . Coraifera, a tree from Brazil, has diesel oil on tap?

. . . The rosy periwinkle from Malagasy now helps to save four in every five victims of lukemia?

Did you also know that to date only a tiny percentage of the world's plants have been screened for their economic use, and that every minute we are destroying 60 hectares of wilderness? What are we losing?

We just do not know.

Autumn Rambles at the Arboretum

Join the informal, educational walks at the Arboretum during the best season of the year to be outdoors. Enjoy the wildflowers, seed heads, berries and fall foliage of a Missouri autumn. Just dress for the outdoors and bring a lunch. Individuals need not make reservations, and groups can be accommodated on other dates.

The instructors this fall are Art Christ, Nell Menke, Susan Russell and Betty Nellums. Each day constitutes one complete session. The walks are planned for September 18 and 25, October 2, 9, 16, 23, and 30. The fee for each walk is $1 for Members and $2 for non-members.

For more information, call the Arboretum Visitor Center at 577-5138.

Robert M. Sunnen

Sunnen Elected Subdistrict Chairman

Robert M. Sunnen, chairman of Sunnen Products Company, was elected chairman of the Botanical Garden Subdistrict Commission of the Metropolitan Zoological Park and Museum District during the May meeting. Mrs. Sandra Bennett, Monsanto Company, was elected vice chairman, Mrs. Deborah Edwards was elected treasurer and Mrs. James S. McDonnell was elected secretary. Officers serve one-year terms.

Sunnen said, "I am very pleased to have been elected chairman. It is especially interesting and challenging to be involved with this Commission during its initial years." He praised Marjorie Weir, the outgoing chairman, saying "Ms. Weir did a tremendous job of establishing the groundwork of the Commission that will allow us to operate even more effectively in the coming year."

Tour Guides Needed

Tremendous demand for guided tours has created a need for more volunteers who enjoy the expansive beauty and history of the Missouri Botanical Garden. Tour guides have an opportunity to meet families, school groups, business associates, dignitaries and others from many lands who have an interest in personally learning about the Garden's special highlights.

Training for new guides begins in February, 1985 with a once a week class and graduation after eight weeks. Certified guides lead two tours per week on a flexible schedule.

For more details regarding the guide program, please call Jeanne McGilligan, volunteer coordinator at 577-5187 or write to Mrs. Parker Smith c/o Education Department.

Garden Gate Shop Notes

If You Are a Gardener, It's Time To Think Spring

Remember the beautiful tulips and bulbs that flooded the Garden this Spring? Well, the same varieties of bulbs will be on sale during the Fall Plant Sale at the Garden. It opens to Members Only on September 13 and 14, and continues through September 16. Members will receive a 20% discount on plants and gifts from the Garden Shop. Orthwein Floral Hall will also be packed with good values for your garden. Now is the time to buy tropical plants which will be on sale to keep you thinking green during the winter. And don't forget all those gardening friends who would love high quality gardening tools and books for Christmas.

****Special reminder:** Don't forget to mail your orders for the fall plant collection that you received in the mail last month.

Order Early

It is not too early to begin planning for Christmas. The 1985 Missouri Botanical Garden Calendar, with stunning photographs by Jack Jennings, is at the printer right now. The 1984 version was an immediate sellout so you will want to reserve your copies now. The price per calendar is $9.95 postpaid if ordered through the mail. If you pick yours up at the Garden Gate Shop, the price is $9.95 and Member's discount does apply. To reserve your copies, which will be mailed to you when they are available, please fill in the order blank below:

Garden Gate Shop

Please reserve_______copies of the 1985 Missouri Botanical Garden Calendar, and mail them to the address below.
I have enclosed_____________($9.95 each).

Name______________________________

Address______________________________

City____________________State____________Zipcode____________

Phone No.______________________________

Mail To: The Missouri Botanical Garden, Garden Gate Shop, P.O. Box 299, St. Louis, MO 63166.

New Iris Garden Dedicated

Thanks to the generosity of Stanley Goodman, a magnificent new Iris garden was dedicated this spring in memory of his wife, Alice Hahn Goodman. The lovely new garden is located west of Flora Gate and includes many outstanding hybrids of Iris, considered to be the queen of any spring garden. The Alice Hahn Goodman Iris Garden is expected to become quickly one of the finest such gardens in the country.

Opposite the Iris beds an inspiring new sculpture was installed. Entitled "Unicorn Spirit," the piece is the work of John Edgar Goodman and was completed in 1982 in memory of Alice Hahn Goodman. Both the Iris garden and the sculpture are sure to become favorites of Garden visitors.

Stanley J. Goodman (right) with his son John Edgar Goodman the artist responsible for the "Unicorn Spirit" sculpture.

Increased Support

Contributing Members

Ralph E. Althaus
Raymond J. Anzalone
Mr. and Mrs. Melvin C. Bahle
Dr. and Mrs. Gordon Ballam
Mr. and Mrs. William Bauer
Mr. and Mrs. Roger E. Beal
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Robert Engmann
Shirley Feron
Alan and Anne Frankel
Mr. and Mrs. Robert J. Fry
Gene Gdruendel
Mary C. Guinn
Stephen J. Hall

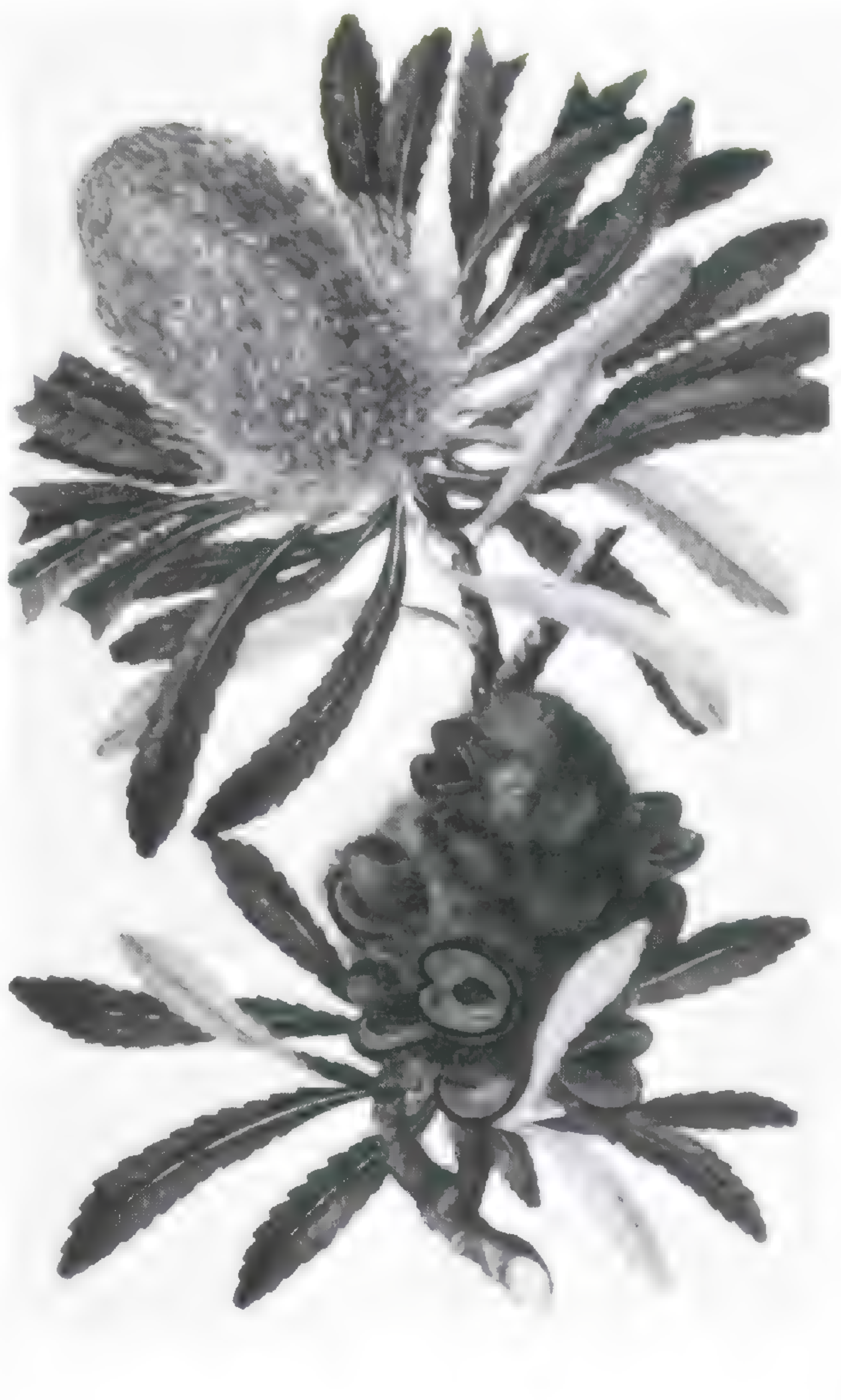
(continued on next page)

Ladue Garden Club Gifts the Garden

Members of the Ladue Garden Club have provided the funds for the Missouri Botanical Garden to purchase one volume of the series of the Banks' Florilegium. The Florilegium is a collection of stunning prints based on a 200-year-old engravings of plants collected during Captain James Cook's first trip around the world.

Mrs. Francis Schneeberger, president of the Ladue Garden Club, said, "The members of our Club feel that the Garden is most fortunate to be one of the relatively few institutions in the world to have the privilege of acquiring an entire set of the Captain Cook prints. The members of the Ladue Garden Club have expressed a great deal of enthusiasm about our participation in this very worthwhile project."

To date the Missouri Botanical Garden is the only botanical institution in the United States to subscribe to a complete set of the engravings, which are being issued in installments through 1986. Only five libraries in this country have purchased sets. The issuance of these engravings is recognized worldwide as one of the landmark publishing events of the 20th century.



Urban Gardening Fair

City gardeners of all ages are being encouraged to enter their finest products in the Urban Gardening Fair which will be held on August 4 and 5 at the Garden.

Ribbons and prizes will be awarded for fruits, vegetables, herbs, flowers and canned goods. Gardeners enter by category and age group, including youth (18 and under), adult (19-64) or senior (65 and over). Prizes to be awarded include a Toro electric lawn trimmer from Gateway Toro; garden tools from Keller Manufacturing Company; garden hoses from Milbradt; fruit trees from Stark Brothers; seeds from Hummert Seed Company; and tool sets from the Missouri Botanical Garden Garden Gate Shop.

Advance registration is encouraged. Registration will be accepted on Friday, August 3 from 4:30 to 7:30 p.m. and on Saturday, August 4 from 7:30 a.m. to 10:00 a.m. at the west end of the Ridgway Center. The Urban Gardening Fair is coordinated by the Gateway to Gardening Association, which is a network of organizations involved in land use, community service, and gardening activities. Sponsors include the Missouri Botanical Garden, the Urban League, the Missouri Cooperative Extension Service and Land Reutilization Authority. For more information please call 367-2585 or 652-2200.

New Members *(continued)*

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Theodora Harrell
Mr. and Mrs. George L. Hensley
D. I. Ingraham
Ms. Marcella M. Kennedy
H. W. Kolkmeyer
Keith A. Kopp
Mrs. Bernice Kranson
Robert L. Krueger
Mark D. LaGrange
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Esther H. Larson
Harry M. Lightsey
Dale T. Lilburn
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Tributes

May 1984

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Mrs. Dorothy N. Barthels
Mrs. Lois B. Punshon

Mrs. G. Belmont
Ms. Elsa J. Schauble

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St. Elizabeth Academy

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Mrs. J. A. Jacobs
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Miss Marian L. Wittmann
Mrs. Helen Brewer

Mrs. Hilda Wrausmann
Mr. and Mrs. Dale E. Ruthsatz

Mrs. Maurice R. Zumwalt
Mr. and Mrs. Wayne Millsap

Samuel D. Soule Center for Senior Citizens

Activities at the Garden

As autumn arrives and temperatures cool, the Garden takes on the golden hues of the season. Many trees and shrubs begin to assume their winter habit with colorful fruits and intriguing branching patterns, not visible through the summer leaves. Birds and animals gather food and prepare for winter. Come and enjoy unique guided tours of the grounds in this everchanging season and join in a special class during the visit.

October and November:
10:30 a.m. to noon: Workshop
Noon to 1:00 p.m.: Lunch
1:00 to 2:30 p.m.: Garden Walk
Pack a brown bag lunch or purchase your lunch in the Gardenview Restaurant. Coffee will be provided.

December:
10:30 a.m. to noon: Workshop
After class, visit the Holiday flower show at your leisure.

All classes will be held in the Missouri and Botanical Rooms of the Ridgway Center.

Monday, October 15, from 10:30 a.m. to noon. Classes will create fall flower arrangements using seasonal materials and fresh flowers. Design a little piece of autumn outdoors to take home with you. From 1:00 p.m. to 2:00 p.m. there will be a special walk. Fall comes to the Garden in bold, bright splashes of color. Walk through the grounds and enjoy the colored leaves and fruits that make autumn one of the best times of the year. (No fee.)

Tuesday, November 6, from 10:30 a.m. to noon, you can learn how to force spring to bloom indoors in the winter. It is easy to do with a little care. Have your own fresh flowers for the upcoming holidays. From 1:00 to 2:00 p.m. you will want to dress warmly for a winter walk through the Garden grounds. Stop in the Desert House, Climatron, and the Mediterranean House to get warm and to compare the plants in these houses with the outside in Missouri (No fee.)

Tuesday, December 11, from 10:30 a.m. to noon, learn how to make decoration for your home, and tree ornaments with natural plant materials. Using cone seeds, spices and a little imaginatio you will take home some special, han made holiday cheer. After class, you w be on your own to enjoy the Garden's a nual Holiday Flower Show in the Orth wein Floral Hall. (No fee.)

Activities at the Garden require pre registration. Space is limited and rese vations will be taken on a "first come, fir served" basis. Walks may be one mil long, so please wear walking shoes an dress for the weather.

The first time you participate in Soule Center activity, you will be issued membership card to the Samuel D. Soul Center for Senior Citizens. From then o you need only show your card to parti ipate in future events, after you have pre registered. Membership cards can als be obtained at the Garden Ticket Counte during regular Garden hours. Remembe membership is available only to those 6 years and older. Pre-registration can b completed by phoning 577-5140 betwee 8:30 a.m. and 5:00 p.m., Monda through Friday.

Activities Come To You

The following programs are intended for organized senior adult groups, not individuals.

Introduction to Bonsai

Discover the ancient Japanese art of growing miniature trees in containers. Basic bonsai styles, soils, fertilizers, and other essential care will be covered. Depending on the type of plant used, bonsai can be grown outdoors or inside. Learn about this fascinating art that can be passed from generation to generation. (A charge of $3 per person is required in advance to cover materials.)

The Plant Doctor Is In

An analysis of the condition of your houseplants will be made along with recommendations for future care. Watering, fertilizing, propagation techniques will be discussed and demonstrated. (No fee.)

Plants Of The Bible

The Bible begins in a garden. From figs and myrtle, mustard to thyme, sit back and discover the plants of the Bible in this narrated slide presentation. Many of these plants can be found today at the Missouri Botanical Garden. See how many you can locate on your next visi (No fee.)

Special Programs

Does your club have a special ho ticultural or botanical program it woul like to see? Give us a call to find out if w can accommodate your needs.

To request one of these programs o for more information, call the Educatio Department at 577-5140. Please allo four to six weeks for scheduling. Engage ments will be confirmed in writing a soon as possible. You are asked not t advertise a date or time until you hav received confirmation.

MISSOURI BOTANICAL GARDEN BULLETIN (ISSN-0026-6507)
P.O. Box 299
Saint Louis, Missouri 63166

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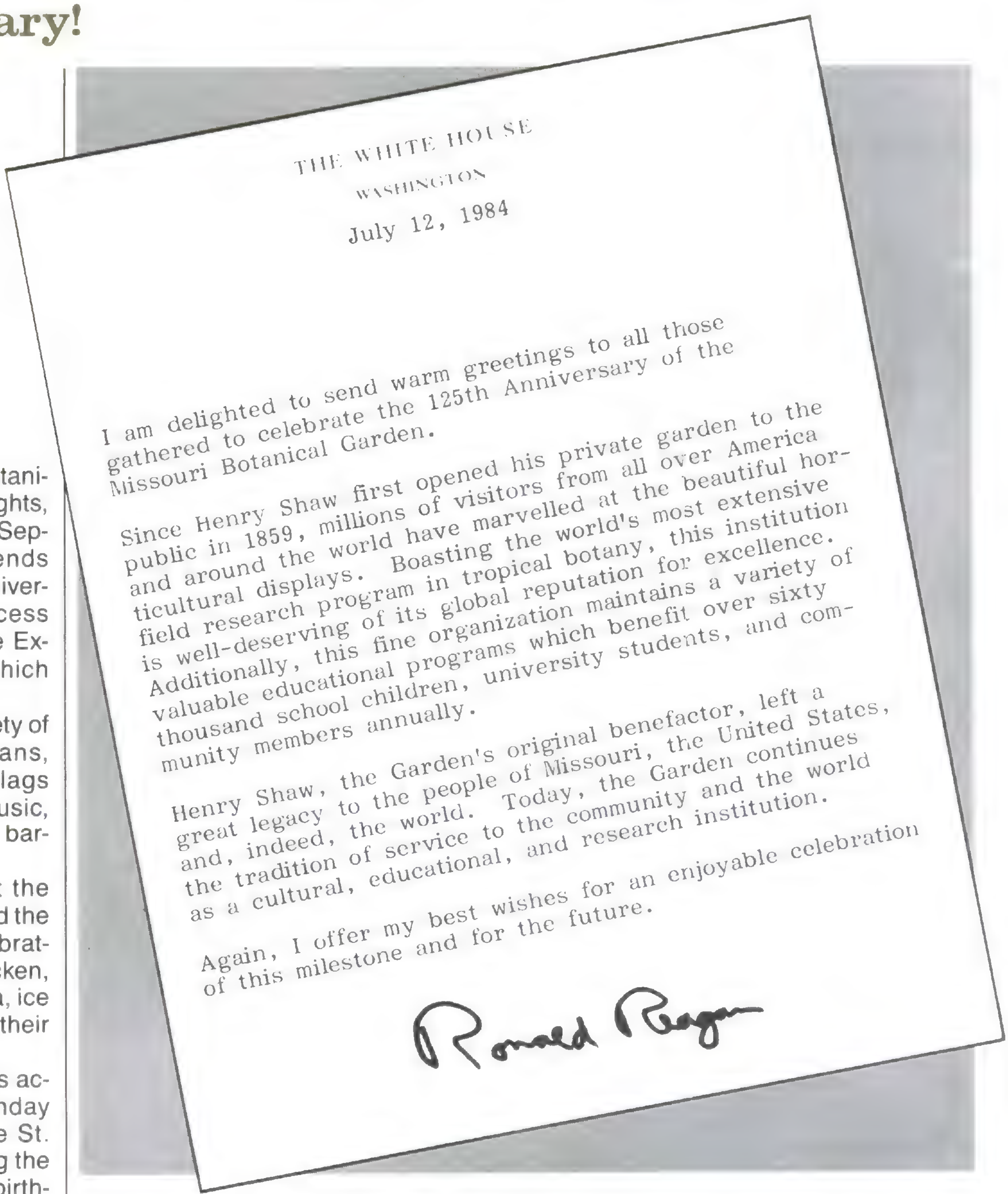
ctober 1984

Missouri Botanical Garden Bulletin

Happy Anniversary!



THE WHITE HOUSE
WASHINGTON

July 12, 1984

I am delighted to send warm greetings to all those gathered to celebrate the 125th Anniversary of the Missouri Botanical Garden.

Since Henry Shaw first opened his private garden to the public in 1859, millions of visitors from all over America and around the world have marvelled at the beautiful horticultural displays. Boasting the world's most extensive field research program in tropical botany, this institution is well-deserving of its global reputation for excellence. Additionally, this fine organization maintains a variety of valuable educational programs which benefit over sixty thousand school children, university students, and community members annually.

Henry Shaw, the Garden's original benefactor, left a great legacy to the people of Missouri, the United States, and, indeed, the world. Today, the Garden continues the tradition of service to the community and the world as a cultural, educational, and research institution.

Again, I offer my best wishes for an enjoyable celebration of this milestone and for the future.

Ronald Reagan

Party Celebrates Garden's 125th Anniversary

The grounds of the Missouri Botani-al Garden were filled with the sights, ounds and smells of jubilation on Sep-ember 22, as Members and friends elebrated the Garden's 125th Anniver-ary. The party was a huge success hanks to the tireless efforts of the Executive Board of the Members which ponsored the event.

The celebration featured a variety of ntertainment including magicians, uppets, clowns, jugglers, Six Flags Shirttail personalities, ragtime music, piritual singers, square dancing, bar-ershop quartets and folk music.

Nobody went away hungry at the Garden's birthday party. Guests had the ifficult task of choosing among brat-vurst, hamburgers, hot dogs, chicken, achos, baked potatoes, beer, soda, ice ream and other snacks to satisfy their ppetites.

One of the highlights of the day's ac-ivities was the Extravagant Birthday Cake Contest featuring 40 of the St. ouis area's Master Bakers. Among the otables who had to pick the best birth-ay cake were TV personalities Dave Murray and Janis Settle, disc jockeys Phillips and Wall, and columnists Joan Dames and Diane Wiggins.

Our own Master Gardeners offered ree advice to visitors on how to get their gardens ready for winter and KSDK's John Fuller set up his weather station in the Ridgway Center to answer questions and do a live broadcast. Children made personalized bookmarks while adults browsed through the Garden Gate Shop or strolled through the Garden.

To commemorate the Garden's 125th anniversary, a special poster is available which features 125 flowers found at the Missouri Botanical Garden. The Missouri Historical Society has also devoted the entire summer issue of *Gateway Heritage* magazine to the Garden. Copies of the poster and magazine are still available in the Garden Gate Shop.

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The MISSOURI BOTANICAL GARDEN BULLETIN is published seven times a year, in February, April, May, June August, October, and December by the Missouri Botanical Garden, 4344 Shaw Boulevard, St. Louis, Mo. 63110. Secon Class postage paid at St. Louis, Mo. $12.00 per year. $15 foreign.

The **Missouri Botanical Garden Bulletin** is sent to every Member of the Garden as one of the benefits of their membership. For a contribution of as little as $30 per year, Members also are entitled to: free admission to the Garden, Shaw Arboretum, and Tower Grove House; invitations to special events and receptions; announcements of all lectures and classes; discounts in the Garden shops and for course fees; and the opportunity to travel, domestic and abroad, with other Members. For information, please call 577-5100.

Postmaster: send address changes to P.O. Box 299, St. Louis, MO 63166.

Comment

This month begins the 1984 Henry Shaw Fund Campaign at the Missouri Botanical Garden. The philosophy behind the Campaign is one of annual giving for unrestricted uses, and as such it is a significant source of additional income to the Garden's operating budget. It is also a means for Garden Members at all levels to exceed their yearly membership contribution in support our many research, education and display programs.

The Garden and its Members enjoy a mutually rewarding lationship. Your generosity as expressed through your nancial support is a vital part of our many successful ojects. At present, membership fees account for approximately 12% of our operating budget. We must depend for one-fifth of our budget on additional contributions from individuals and organizations. The Henry Shaw Fund drive plays a key role in meeting this need.

We have set a fundraising goal of $200,000 for the 1984 Campaign. Gifts to the Henry Shaw Fund drive have increased steadily each year, thanks to the generosity of Garden Members and other St. Louisans.

Soon, Members will receive a special Henry Shaw Fund contribution request. I hope I can count on your continuing support in this important fundraising campaign.

Peter H Raven

utumn Offerings for Members

The popular Members' Preview of e Fall Flower Show is scheduled for iday, November 2, from 5:30 p.m. to 30 p.m. in the Floral Display Hall. In ddition to this annual event, four Mem-ers' Days, with special programs, are n the Garden calendar in October and ovember. On those days, Members ll receive free tram rides, an addi-onal five percent (5%) discount on ant purchases, and a special price on ne item in the Gardenview Restaurant. ne Garden Gate Shop will also offer pecial Members Only sale items. In ad-tion, each Member may bring two uests, free of admission charge, to e Garden.

In **October**, when St. Louis garden-s face the end of the growing season yard and garden, the brightest colors ay appear in the glowing ads for ulbs. For Members who succumb to is promise of spring, June Hutson will emonstrate "Bulb Planting" on **Thurs-ay, October 18**, and will answer ques-ons about choices of bulbs and suita-e bed conditions. She will meet embers at 1 p.m. in front of the Clima-on. At 2:00 p.m., Jim Henrich will take embers behind the scenes for a "Tour the Greenhouses," where the floral splay plants are nurtured for the fall nd holiday shows.

On **Saturday, October 27**, Jack Jen-ngs will share a "Photographer's ew of the Garden" with Members who cus on the beauty of the Garden rough their view finders. He will esent some slides, with commentary, the Garden Room at 9:00 a.m., and oceed into the Garden to give some actical tips on specific situations. (Re-ent Garden calendars have featured ennings' work.) Reservations are required: Phone 577-5186.

"Orienteering" is an outdoor challenge for the whole family. At 10:00 a.m., on **Saturday, November 10**, Members and their children may meet in the Beaumont Room for an introduction to orienteering, and instruction in the use of compasses provided for the program. A course will be laid out using eight to ten Garden features, and each family will take their own compass fixes to find these points. Garden mementos will be awarded to families who successfully complete the course. Reservations required: Phone 577-5186.

Last December's frigid temperatures wreaked havoc with many prized roses, azaleas, rhododendrons and chrysanthemums. On **Monday, November 19th**, before the temperatures plummet, Master Gardener Edgar Gildehaus will present "Putting Your Garden to Sleep." In this program he will describe ways to protect your plantings from the extremes of heat and cold experienced in St. Louis, and to provide optimum conditions for healthy growth next spring, in the Museum Building at 2:00 p.m. Members may park on Tower Grove and enter through the gate at 2221 Tower Grove Avenue.

Did You Know?

An area approximately equal in size to the Climatron is being logged every second in the tropics, with about twice that area additionally being degraded, cut over or disturbed. The Food and Agricultural Organization of the United Nations estimates 75,000 square kilometers per year are being logged. This is 1.1 percent of the total global reserves of tropical lowland forest left on earth.

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A variety of activities are available for the entire family.

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Find out why squirrels gather nuts in fall.

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Mark your calendar for the many special events planned at the Garden during October and November.

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The Education Department will offer special training to area science teachers.

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More than 50 exhibitors will show their crafts during the two-day fair in October.

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Mrs. Anne L. Lehmann has been elected Trustee Emeritus of the Missouri Botanical Garden.

Garden Grants Received . . . . page 12
Four special grants have been awarded to the Garden for a variety of projects.

Behind the Scenes . . . . page 12
Cora Steyermark's new book details the activities that go into the making of a major state Flora.

Fall Lectures . . . . page 13
A Window On The World is the theme of the 1984 Fall Lecture Series.

125th Anniversary Sponsors page 13
Generous contributions by individuals and firms helped make the Garden's birthday a success.

The Making of A Christmas Tradition

What could be more exciting than a gloriously decorated Christmas tree in beautiful Monsanto Hall? The answer is seven of them, decorated by some of the finest floral designers in all of St. Louis.

In honor of the Garden's 125th Anniversary year, six floral designers are donating their time and artistic talent to provide a magnificent Victorian Christmas for Garden Members. The designers participating in this gala celebration are Mr. John Prel, Mr. David Cumberworth, Mr. Ken Miesner, Mr. Ralph Allen, Mr. Dale Rohman of George Waldbart Floral Company, and Ms. Roz Burkhardt of the Striped Gazebo. The designers will each be provided with a nine foot evergreen and a stipend for ornaments. From that point, they are left to their own creative devices, which are considerable. In addition, a special Members tree will be decorated by Mr. Alan Godlewski, chairman of the Horticulture Department, featuring glass balls with the Garden's logo.

Members are invited to the unveiling of the designer Christmas trees on Friday, December 7 at 5:30 p.m. The display officially opens to the public on Saturday, December 8. The preview will be a festive occasion with entertainment and special activities. You won want to miss this exciting evening.

Yuletide at Tower Grove House

Tower Grove House will be decorated for Christmas and open to visitors from Tuesday, December 4, through Sunday, December 30. The house and the Garden will be closed Christmas Day.

The second annual Candlelight Tour, sponsored by the Tower Grove House Auxiliary, will be held on Wednesday, December 5, between 4:30 p.m. and 7:30 p.m. Reservations may be made by calling Tower Grove House, 577-5150, or by mailing the reservation form below. The fee includes a candlelight tour of the decorated house, plus refreshments in the Tea Room. Admission will be through the Cleveland Gate, 2221 Tower Grove, where your name will be registered.

Garden Gate Shop Gears Up For Christmas

This year the Garden Gate Shop will be celebrating the 125th anniversary of the Garden with a Victorian flair. Santas of all sizes and from all periods will be included in music boxes, ornaments, collectible figures, cards and wrappings available in the shop.

The wreaths, bird nests and natural ornaments on display will delight you with their holiday smells. See tiny hummingbirds, doves and partridges amid the Christmas greenery. For the Christmas collector, the Garden Gate Shop carries authentic German nutcrackers, smoking men, music boxes and ornaments.

Toys will be everywhere with an outstanding selection of stocking stuffers, animals, children's books and educational toys. All members of the family are included in this year's selection The Garden Gate Shop is especially excited about all the new china, glass, picture frames and holiday ware recentl added to its inventory of fine gifts.

If you can't decide what to get tha special person on your holiday shopping list this year, why not give a **Gif Certificate**? They are available in the Garden Gate Shop.

Special Members Only Sale— Mark your calendars now so you won' miss the special holiday sale for Garden Members on Wednesday an Thursday, November 7 and 8. The Garden Gate Shop will remain open till 8:0 p.m. both days for your shopping convenience. All items will be reduced **20%** on sale days. Shop early for the bes selection.

Mail to: Tower Grove House, P.O. Box 299, St. Louis, MO 63166

Please make reservations for _____ for the Candlelight Tour, Wednesday, December 5, Tower Grove House between 4:30 and 7:30 p.m.

Enclosed is my check for $5.00 per person. Please make checks payable to Missouri Botanical Garden.

Name________________________________

Address______________________________

Christmas Cards Available In Gift Shop

A special limited edition Christmas card featuring a beautiful full-color photo of last year's Holiday Flower Show is now available in the Garden Gate Shop. Cards come in boxes of 20 each.

Garden Guides

arden Guide Faye (Mrs. Marcus) Hasse leads a group of children from the Kinder-Care Learning Center in Bridgeton on an informative tour of the Garden.

One of the most active and enthusiastic groups of people the Missouri Botanical Garden is the Garden Guides. This oup of volunteers serves a very important function—the uides are the link between the Garden and the public. The eed for guides has increased dramatically during the pro- am's 16 year history. Forty new guides are now needed to ssist the present corps of 50.

Following one of the Garden Guides on a tour, one comes vay with an infectious sense of interest in plants and nature nd an insatiable desire to learn more. One such guide is Na- ne (Mrs. George M.) Mahe. "I don't know of anything I've one in my life that has been as much fun," she said. "I take a ersonal pride in the Garden. It is as if I planted all of this my- elf and I want to show it off." She and the other guides volun- er at least one day per week to take groups of children, dults, garden clubs, seniors and foreign visitors on interpre- ve tours of the Garden's many features. Whether it is taking a roup of pre-schoolers through the "jungle" of the Climatron explaining the importance and symbolism of the Japanese arden to a group of senior citizens, the Garden Guides can't de their enthusiasm.

John W. Scott, at present the only male Garden Guide, aid he became a guide because he truly likes people, has the me to devote to the Garden and has a strong interest in ardening. His interest in gardening has also led him to join e Master Gardener program. "One of the greatest rewards ou get out of being a guide happens when you are leading a roup of little ones on a tour and, as you near the end, a little and silently slips into yours," he said. "You know you've ade a friend."

The Garden Guides led 1,050 tours during the last year nd have had to turn away requests for at least as many be- ause of a shortage of trained guides, according to Mary Jane Mrs. Frank G.K.) Kirtz, co-chairman of the Garden Guides. The next training class begins January 29, 1985, and goes rough March 26," she said. "We are hoping to double our class size this year so that we can serve more groups."

Harriot (Mrs. H. Parker) Smith, co-chairman of the guide training program, said the program will consist of nine consecutive Tuesday classes where future guides will learn about the history of Shaw's Garden, the contents of the Climatron, Desert House, Mediterranean House, Japanese Garden, plant variations as related to climate, and display gardens. Classes run from 9:30 a.m. to 3:30 p.m. and are taught by members of the Garden staff and veteran guides. "Working with the staff has just been terrific," Mrs. Smith said. Founder of the Garden Guides in 1968, Mrs. Smith said she has made many friends among the staff and other guides.

Requirements for potential guides consist of having an interest in plants and nature and a desire to learn more. Guides must also have the stamina for walking in all kinds of weather and, most importantly, a joy in sharing one's knowledge with others. Being a Garden Guide does require a sincere commitment to devote one's time to the program. Guides must attend, in addition to the initial nine week training session, guide meetings on the second Tuesday of the month from September through May and choose at least one day per week to guide between September through June, with summer guiding optional. Because of the intensive training involved, a minimum commitment of one year's service to the Garden is necessary.

"If I had to describe in two words the most important considerations in becoming a guide," Mrs. Mahe said, "it would be commitment and flexibility. You must be able to make that commitment to the Garden and be flexible enough to tailor your talks to the particular group."

If you enjoy learning about plants and sharing your knowledge with others, want to serve the community, and have the time to give to the Garden, you can be a part of this active group. For more information or an application to be a Garden Guide, call Jeanne McGilligan in the Volunteer Office at 577-5187.

Gardening In St. Louis

Choosing Bulbs for Winter Color

Daffodils, hyacinths, tulips, crocuses and many other blooming bulbs signify the freshness and vitality of spring. Bulbs promise beauty and fragrance to gardeners who take the time and effort to plant them.

Bulbs are basically neat, compact packages which contain already-formed embryonic flowers and the food needed for the following growing season. All these amazing bundles of life need to turn them into blooming plants is a suitable place to grow.

Bulbs are easy to obtain from local garden stores, including our Garden Gate Shop, or mail order specialists. They provide color when other plants are not blooming, and are easy to plant and tend.

With careful selection you can provide the color, texture, form and fragrance of bulbs on your grounds from January through June. The following is a list of various bulbs and their flowering dates. Blooming dates vary somewhat due to climatic fluctuations.

JANUARY

Crocus species
Winter aconites (*Eranthis* spp.)
Snowdrops (*Galanthus* spp.)

FEBRUARY

Crocus species
Miniature Dutch Iris (*Iris reticulata, I. danfordiae*)
Spring Snowflake (*Leucojum vernum*)
Daffodils—miniatures and early blooming types
Scilla (*Scilla tubergeniana*)
Tulip species (*T. biflora, T. pulchella*)

MARCH

Anemones (*Anemone blanda* varieties)
Glory-of-the-Snow (*Chionodoxa* spp.)
Crocus species
Grape Hyacinths (*Muscari* spp.)
Early Tulips (*Tulipa praestans, T. turkestanica*, Kaufmanniana hybrids)

APRIL

Anemones—Monarch De Caen
Spring Star Flower (*Brodiaea uniflora*)
Trout Lily (*Erythronium* spp.)
Crown Imperial (*Fritillaria imperialis*)
Guinea-Hen Flower (*Fritillaria meleagris*)
Hyacinths
Striped Squill (*Puschkinia libanotica*)
Grape Hyacinth (*Muscari armeniacum*)
Hermodactylus tuberosa
Daffodils (*Narcissus canaliculatus, N. triandrus albus, N. triandrus* varieties, trumpets, large and small cupped jonquils, tazetta, poeticus varieties)
Star-of-Bethlehem—*Ornithogalum nutans*
Tulips (*Tulipa aucherana, T. chrysantha, T. clusiana, T. kolpakowskiana, T. tarda, T. tubergeniana, T. urumiensis*, Fosteriana hybrids, Greigii hybrids, Single Early, Double Early, Mendel, Triumph hybrids).

MAY

Ornamental Onions (*Allium aflatunense, A. karataviense, A. rosenbachianum*)
Snowflake (*Leucojum aestivum*)
Daffodils—late varieties
Star-of-Bethlehem (*Ornithogalum umbellatum*)
Tulips (*Tulipa acuminata, T. Batalinii, T. marjoletti, T. persica*- Darwin, Lily-flowered, Cottage, Rembrandt, Parrot and Double Late Varieties)

JUNE

Anemones—De Caen varieties, St. Brigid varieties (spring planted)
Flowering Onions (*Allium albopilosum, A. giganteum, A. moly, A. neopolitanum, A. ostrowskianum, A. roseum*)
Camass (*Camassia leichtlinii*)
Dutch Iris varieties
Foxtail Lilies (*Eremurus bungei, E. robustus*, hybrids)
Lilies—species and hybrids
Ranunculus—species and hybrids

Cultural Information

Bulbs are not finicky plants to grow, but they do requir well-drained soil. Fertilizer is not necessary the first year; can be added in spring to help nourish next year's blossom Bonemeal is the time-honored fertilizer for bulbs. Unfo tunately, bonemeal is slow to dissolve and become usable t the plants. For this reason I prefer to apply two to three pound of a 5-10-5 fertilizer per 100 square feet of bed area. If yo would rather use bonemeal, apply it at five to six pounds pe 100 square feet of bed area.

Bulbs can be planted individually with a special bulb plan ing tool or trowel. It is usually best, however, to plant bulbs i groups or clusters in beds. To have the most uniform result remove all soil to the required depth in the area to be plantec Then set the bulbs in the excavated area and cover ther with soil.

As a general guideline, the depth the bulbs should b planted is two to three times their diameter. As an example, bulb two inches in diameter should be planted four to si inches deep, depending on the soil type. Bulbs should b planted more deeply in a light, sandy, well-drained soil than i a heavy, clay soil. After bulbs have been planted they shoul be thoroughly watered. Indicate where your bulbs are locate with labels or make a map of your garden. Without this mark ing system you may accidentally dig up or damage some c the bulbs when you are transplanting various annuals an perennials in the summer or fall.

After bulbs flower, resist the temptation to remove their ur attractive foliage until after it has naturally died. This foliage produces the critical food reserves necessary for forming next year's flower buds.

If you are not able to plant bulbs as soon as you buy them, place them in any cool, but frost-free, dry spot which has good air circulation. Put them in ground as soon as possible, however, because it is crucial the bulbs have ample time to become rooted before the ground freezes.

Fortunately, bulbs have few pests. In damp weather they may be bothered by slugs. If so, a poison bait such as mesurol can be used. A liquid formulation of mesurol can be used if you are concerned about small animals eating the poisonous pellets.

Mice and chipmunks relish crocus bulbs. If you have trouble with these rodents, the only sure way to prevent them from eating your precious bulbs is to plant the bulbs in cages made of hardware cloth.

Forcing Bulbs

Forcing spring bulbs to bloom indoors several months before their natural flowering time is simple as long as a few basic rules are followed:

- Gather the pots you will need. Clay or plastic bulb pans are best, but any pots can be used. Choose pots which are four to eight inches in diameter. If you want a stunning display, pot up a few 16 inch pots.
- Clean the pots thoroughly. To be sure they are sterile, soak them overnight in a solution of one part liquid chlorine bleach and nine parts water. Rinse the pots before using.
- Choose varieties of bulbs which are well suited to forcing. Hyacinths and daffodils are easy to force; tulips are more difficult. Other bulbs will force, but some are tricky and do not flower very long indoors.
- Pot up the bulbs in any well-drained potting medium. Put them as close together as you wish as long as the bulbs do not actually touch. Plant them so the tips barely show above the soil level.
- Some people place a layer of gravel in the bottom of the pot for drainage, but I do not feel this is necessary unless the container has no drainage holes.
- All spring blooming bulbs must be given a cool (about 40 degrees F), dark period of 10 to 15 weeks for necessary rooting and growing. This can be done by storing the potted bulbs in a coldframe outdoors that is mulched with straw, or a cool attic, basement, root cellar, old refrigerator, or garage.

After the chilling requirement has been satisfied, bring the bulbs into a cool (55-60 degrees F) dark room for two days and then to a bright room (60-65 degrees F). Once the flowers have opened they will last longer if they remain in a cool room without direct sunlight striking them. Bring the pots inside at two week intervals for a steady supply of blooms.

A single Hyacinth bulb can be forced in special bulb "glass." The glass should be filled so that the water level is slightly *below* the base of the bulb. If the base of the bulb touches the water it will probably rot. A quarter of an inch of charcoal can be placed in the bottom of the glass to keep the water fresh.

Place the glass in a cool (40 to 50 degrees F) dark area for about 12 weeks. At this time the flower bud should be protruding from the neck of the bulb and is ready to be brought to a warm (65-75 degrees F) bright room to be forced to flower.

—Steven A. Frowine, Public Horticulture Specialist

Family Saturday Morning Activities

Spend your Saturday mornings having fun at the Garden and learning something new at the same time. The Education Department is planning a series of family oriented classes for October through December. All classes run from 10:30 a.m. to 12 p.m.

A Pot For Your Plant is a hands-on learning experience with clay. You will hand build earthenware pots by pinching, coiling and making slabs. Class meets October 6. The Members' fee is $12 for adults and $8 for children.

Cloning Concepts on October 13 will explain the whys and hows of commercial, economic and research cloning. You will be able to take home a cloned plant that you made happen. The Members' fee is $6 for adults and $4 for children.

Lives of the Dinosaurs will discuss those mysterious creatures from the past. Discover what they looked like, ate and why they are no longer here. Class meets October 27. Members' fee is $5 for adults and $3 for children.

Bulb Forcing will teach you a few simple tricks to bring springtime color into a winter home. Class meets on November 3. The Members' fee is $5 for adults and $3 for children.

Grocery Store Botany takes a more serious look at the fruits and vegetables we eat. You will examine leaves, roots, stems and fruits for practical applications to everyday life. Class meets November 17. The Members' fee is $5 for adults and $3 for children.

Cahokia—A Prehistoric City will show you how scientists unravel the mystery of this ancient civilization. It's a great chance to get a close-up of actual artifacts. Class meets December 1. The members' fee is $5 for adults and $3 for children.

Exploring the Winter Sky will teach you to spot heavenly bodies in your own backyard. Come to the Garden and step inside the Unisphere, a portable planetarium. Class meets December 15. The Members' fee is $5 for adults and $3 for children.

All Saturday morning family activities are recommended for children four years of age and older. Please call the Education Department at 577-5140 for registration information.

Answer Service Needs Volunteers

The Missouri Botanical Garden's Answer Service is in need of five or six additional volunteers to staff the phones to answer horticultural questions from other Members and the general public. The Answer Service, which began in 1969, presently has 42 members who staff the phones from 9:00 a.m. to noon, Monday through Saturday, from March through October, fielding just about every horticultural question the greater St. Louis area can ask. They answer over 15,000 calls a year. The Answer Service Room is equipped with a reference library and a Garden staff member is always present to provide further assistance.

Apart from the horticultural experience each volunteer brings to the program, Answer Service members participate in enrichment programs once a week from November through February. These classes vary in content from year to year, building a broader and more useful base for each Answer Service volunteer to better serve the public. Classes are taught with donated time by Garden staff, Extension Service personnel, tradesmen and other authorities in the plant science field.

Classes for the 1985 season are forming now. If you would like more information call the Volunteer Office at 577-5187.

FOR *Younger* MEMBERS

Squirrels and Other Nuts

A squirrel looks around to make sure no other animals are nearby. Then it quickly thrusts the acorn into its mouth and scampers up a nearby oak tree. This is a common sight during the fall season. As acorns ripen, they fall to the ground. Squirrels collect the fallen nuts and store them for food to eat during the cold winter season.

Chestnuts, hickory nuts and walnuts also ripen in the fall. Years ago, families would go into the woods to collect the nuts before the squirrels gathered them all. Each nut is a seed that contains a tiny plant inside. When a nut is covered with soil, the tiny plant inside may sprout. It may then grow to be a tree just like the one from which the nut fell.

Take a walk during the fall season to see how many different kinds of nuts you can find. You may even discover that you trip over some of the large walnuts scattered over the ground!

You will need: a paper bag for collecting nuts; containers for sorting; containers and soil for planting; a nutcracker; a tree identification book.

What to do: Try to find an area where many different kinds of trees grow. The area could be in a park or along the streets of your neighborhood. It could even be in your own backyard. Be sure to have a paper bag handy. As you collect the nuts, look up to see from which tree they may have fallen. Do you see similar nuts still clinging to the branches overhead? Feel the outside of the nuts. Is their skin covering smooth or rough? Acorns have a smooth covering with a bumpy cap. Chestnuts have a prickly cover. Place each of the nuts into your paper bag.

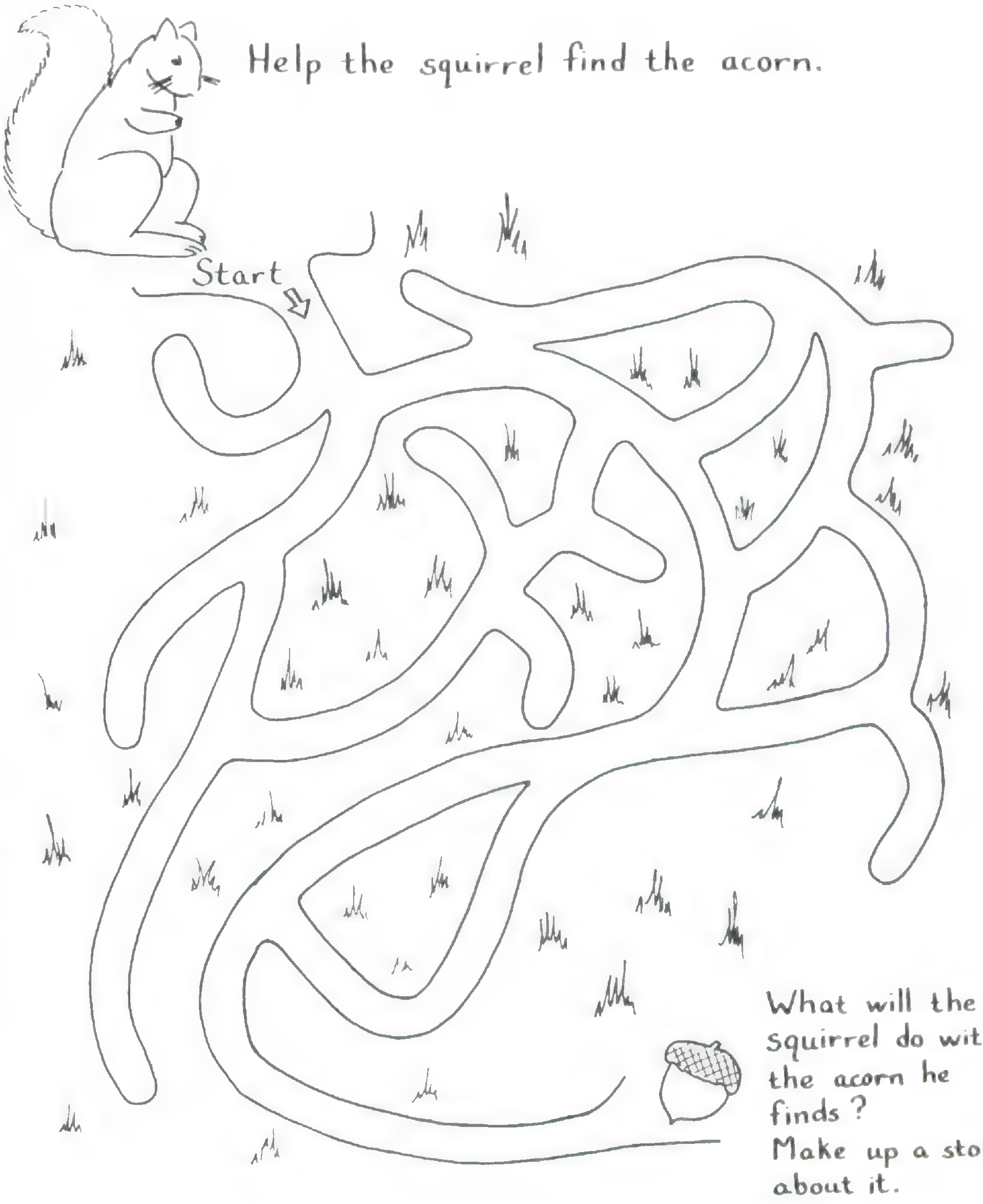
When you have finished collecting, bring your bag of nuts home. Sort them out by placing similar nuts into separate containers. Have a tree identification book handy. It will help you learn more about the nuts and about the trees on which they grew. Use a nutcracker to open up some of the nuts. What do you see inside? Try planting a few acorns in a container filled with soil. After you have planted them, water the acorns and place them in a sunny window. How long does it take for an acorn to sprout? Does it grow quickly or slowly? Be patient—one day you will see a bit of green peeking out of the soil in your container!

—Ilene Follman
Education Consultant

Family Saturday Morning Activities

Recommended for children 4 years of age and older, and their parents. All sessions meet on Saturday mornings, 10:30 a.m. to noon. For a complete description of each class, see page seven.

October 6: A Pot for Your Plant
October 13: Cloning Concepts
October 27: Lives of Dinosaurs
November 3: Bulb Forcing
November 17: Grocery Store Botany



Help the squirrel find the acorn.

What will the squirrel do with the acorn he finds?
Make up a story about it.

October and November 1984—Celebrating 125 Years

October Events

te: Fall/Winter Garden hours—9:00 a.m. to 4:30 p.m. beginning October 1.

ctober 3	**Fall Lecture Series** Dr. Paul Garcia, St. Louis University. Lecture: "Interconnections: Different Cultures and Human Values in Historical Perspective." 10:30 a.m. & 8:00 p.m., Shoenberg Auditorium.
ctober 6 & 7	**Chinese Festival** Experience the entertainment, art, food and traditional culture of one of the most fascinating and ancient cultures. From 9 a.m. to 4:30 p.m. Grounds.
ctober 6 & 7	**Gesneriad Society Display** The finest of the African Violet family will be exhibited by society members and awards will be given for various categories. Opens at noon on Saturday, runs until 4:30 p.m.; Sunday, 9 a.m. to 4:30 p.m. Orthwein Floral Hall.
ctober 6-28	**Staghorn Fern Display** The exotic staghorn fern will be displayed in natural settings. From 10 a.m. to 4:30 p.m. Climatron.
ctober 10	**Fall Lecture Series** Lecture to be announced. 10:30 a.m. & 8 p.m. Shoenberg Auditorium. Call 577-5108 for information.
ctober 13	**Missouri Concert Ballet** Enjoy the magnificent choreography and execution of the ballet presented with an oriental theme. 8 p.m. Call 469-6222 for tickets and information. Shoenberg Auditorium.
ctober 13 & 14	**Fall Craft Fair** Midwestern crafts and entertainment by more than 50 exhibitors will be presented. From 10 a.m. to 4:30 p.m. Ridgway Center.
ctober 17	**Henry Shaw: Beyond The Garden Gates** Discover Henry Shaw's place in history outside of his beloved Garden. Katherine Corbett, curator of education for the Missouri Historical Society, will talk about the bustling city life of St. Louis in 1859 and how Henry Shaw fit within that society. From 7 to 9 p.m. Members, $5.25, non-members, $6.25. Call 577-5140 for information and reservations. Missouri and Botanical Rooms.
ctober 17	**Fall Lecture Series** Dr. Alwyn Gentry, Herbarium. Slide Lecture: "Exploring for Plants in Amazonian Peru." 10:30 a.m. & 8 p.m. Shoenberg Auditorium.
ctober 18	**Members' Preview** Preview the works of Peter Ellenshaw from 5:30 to 7:30 p.m. Ridgway Center in Monsanto Hall.
ctober 18	**Members' Day Program** Bulb Planting—demonstration by June Hutson at 1 p.m. in the Climatron. Tour of the Greenhouse conducted by Jim Henrich at 2 p.m.
ctober 19- November 18	**Peter Ellenshaw Exhibit** The vitality and realism of Peter Ellenshaw will be revealed in this exhibit of portrait forms and landscapes. Ellenshaw is noted for developing the technique of matte painting for the film industry, most notably for Walt Disney. From 9 a.m. to 4:30 p.m. Monsanto Hall.
ctober 20 (rain date-October 27)	**Breakfast With The Birds** Join naturalist Claudia Spener for a look at migrating birds and winter residents. Continental breakfast will be served after the walk. From 8 to 10 a.m. Members, $8, non-members, $9.50. Call 577-5140 for information and reservations. Restaurant and Grounds.
October 24	**Fall Lecture Series** Dr. William D'Arcy, Herbarium. Slide Lecture: "Panama: Personal Observations." 10:30 a.m. & 8 p.m. Shoenberg Auditorium.
October 27- November 17	**Children's Films** October 27, *The Great Race*; November 3, *Tron*; November 10, *The Cat From Outer Space*; November 17, *Alice In Wonderland*. All films start at noon. Seating is limited so come a little early. Members, $1, non-members, $1.50. Shoenberg Auditorium.
October 27	**Members' Day Program** "A Photographer's View of the Garden" by Jack Jennings. Slides in Garden Room at 9 a.m., with practicum following in the Garden.
October 28-30	**Israeli Days** A collaboration of displays, entertainment and food will pay tribute to the Jewish community. Ridgway Center and Grounds.
October 31	**Fall Lecture Series** Elsa Zardini, Visitor, Herbarium. Slide Lecture: "Argentina: Her People and Her Plants." 10:30 a.m. & 8 p.m. Shoenberg Auditorium.

November Events

November 2	**Members' Fall Flower Show Preview** Brilliant color and chrysanthemums of great variety will highlight the display in Orthwein Floral Hall. Take this special opportunity to see it first. The display will be previewed for Members at 5:30 p.m. The public display runs from November 3 through 25 and will be open from 9 a.m. to 4:30 p.m. Ridgway Center.
November 7	**Fall Lecture Series** David Wilson, Education Department. Slide Lecture: "Thinking Globally, Acting Locally." 10:30 a.m. and 8 p.m. Shoenberg Auditorium.
November 7 & 8	**Holiday Preview Sale** It's never too early to start Holiday shopping, especially since Members receive a special added discount in the shops. From 9 a.m. to 4:30 p.m. Garden Gate Shop.
November 7 (rain date November 14) & November 8 (rain date November 15)	**Evening Walks Through Japanese Garden** Sip saki as you stroll through the beautiful Seiwa-En with Charles Hooker. curator of the Japanese Garden. Learn the symbolism and philosophy of the Japanese Garden as you tour this living masterpiece. From 5:30 to 7:30 p.m. Members, $7.50, non-members, $9. Call 577-5140 for information and reservations. Garden Room and Japanese Garden.
November 10	**Members' Day Program** Orienteering for Families. Reservations required. 10 a.m. Beaumont Room. Call 577-5108 for reservations.
November 10	**Wolf Howl** Join us for a visit to Tyson Wolf Sanctuary for a special rendezvous with the wolves. A short slide presentation and film will precede the walk to the sanctuary. Finish the evening with cookies and a warm drink. From 6:30 to 10:30 p.m. Members, $14, non-members, $16.80. Call 577-5140 for information and reservations. Meet at Ridgway Center Ticket Counter.
November 19	**Members' Day Program** Edgar Gildehaus, Master Gardener. "Putting Your Garden to Sleep" or how to help your plants survive the winter. 2 p.m. Museum Building—Enter through gate at 2221 Tower Grove Avenue.

Calendar Note: Scheduling circumstances may dictate a change or cancellation of special events. Please call 577-5125 during the week to confirm an activity. Weekends, please call 577-5212.

Education Department Offers Chautauqua Course

The Education Department at Missouri Botanical Garden is sponsoring a Chautauqua Short Course for science teachers. Thirty teachers, from the elementary through junior-senior high school levels, will be selected on a competitive level from St. Louis City and County public and private schools to participate in this enrichment program.

The short course is sponsored by a grant from the National Science Foundation and the National Science Teachers Association for three years with matching funds from the Garden and the participating schools or school districts. The Garden was selected as one of 15 universities/resource centers in the United States to participate in this program.

The teachers will participate in the workshop—"Our Place in the Ecosystem" with a two day intensive session, Friday and Saturday, November 2 and 3, 1984 with an interim project, followed by a two day spring session, Friday and Saturday, March 29 and 30, 1985. The March 30 session will include an all day field trip to the Shaw Arboretum in Gray Summit. Each participant will receive a $150 stipend, released time with pay and substitute teacher pay for the Friday sessions, book expenses and three graduate credits from the University of Missouri at St. Louis upon completion of the workshop. Teachers will develop ecological/environment education curriculum for their schools/school districts.

Dr. Peter H. Raven, director of Missouri Botanical Garden, will launch the workshop with a lecture on "Tropical Rainforest Ecology." Other workshop leaders will include Mr. Dave Wilson, environmental education coordinator and director of the ECO-ACT program at the Garden; Dr. Charles Granger, biologist/science educator at UMSL; and Dr. Doris Trojcak, associate dean and science education professor at UMSL. Other speakers will be included from the Missouri Department of Conservation and the Department of Natural Resources.

For more information regarding the workshop contact Dr. Kenneth D. Laser, chairman of the Education Department, at Missouri Botanical Garden at 577-5139 or 577-5140.

Joyce Foundation Funds Education Program

The Education Department recently received a grant from the Joyce Foundation to develop and implement environmental education programs reaching elementary, junior and senior high school teachers and students in the St. Louis region. The grant provides funds for the Education Department to develop materials and instruct teachers in how to use them. It also provides funds for teachers who participate in Garden workshops to develop their own materials for use in their classroom. In addition, more students will have an opportunity to come to the Garden for classes and study tours.

The one day programs for high school students will encourage them to think about global environmental issues, including energy use and conservation, forest and forest destruction, and hunger and the world food supply.

For junior high classes, the Garden is developing an export program on Missouri's natural history, including the geology of Missouri, mammals of Missouri and the prairie in Missouri.

Elementary school children will receive additional training in ecology from teachers who sign up for the environmental science workshops which will run monthly through the school year.

According to David Wilson, coordinator of Environmental Education Programs and of the grant, "We have found students at all grade levels are eager to learn about the world around them. The support from the Joyce Foundation will enable us to provide teachers with materials they can use directly in the classroom, thus enabling us to reach more students with more science education materials."

Teachers who want information on how they can participate in the workshops, for which they will receive a stipend, may call the Missouri Botanical Garden Education Department at 577-5140.

1985 Missouri Botanical Garden Calendar

The Garden Gate Shop has just received the new 1985 Missouri Botanical Garden Calendar. The large, 16 x 12 inch, calendar features more than two dozen stunning color photographs of Shaw's Garden by Jack Jennings, Members Board second vice-president. Calendars are $9.95 each. Pick up several. They make excellent gifts.

Paul Redfearn

Dr. Paul L. Redfearn Jr., a researc associate at the Garden and professo of Botany at Southwest Missouri Stat University, recently returned from an e pedition to study mosses (bryophyte in the Yunnan province of China. Whil the results of his studies will not b available for some time, Dr. Redfear did comment that he had a difficult tim collecting specimens because of th scarcity of uncut forests in south western China due to severe ove crowding. "What we saw in China i what we will see in the United States we don't do something to control our fo ests," he said.

This was Dr. Redfearn's second e pedition to China in as many years Next year the Chinese government wi send one or two botanists to the U.S. t study at the Missouri Botanical Garden It is hoped that the relationships D Redfearn has set up will lead to the Garden becoming a center for the study o Asian bryophytes.

Crafters Display Their Best for Fall Fair

Herbs and spices, ceramics, pot tery, wooden carvings and toys, embro dered keepsakes, handmade dolls patchwork quilts, glass figurines, wover baskets, watercolor art, holiday orna ments, homemade goodies and many more favorites will be available for purchase during the Fall Craft Fair on Oc tober 13 and 14 in the Ridgway Center From 10 a.m. to 4:30 p.m. more than 5 exhibitors will show an extensive variety of their finest specialties.

Additionally, entertainment will ad a festive touch and the brilliant fall colo will accent the flowers and trees on the grounds. This is a great opportunity to start your holiday shopping!

Edgar Denison Fund Established

Friends of Edgar Denison have set up a Fund for Study of Missouri Plants n honor of his 80th birthday, which was August 31. This fund will be administered by the Garden and will be available to students of the Missouri lora who need financial assistance for ravel to the field.

Mr. Denison is well known as the auhor of "Missouri Wildflowers," which was published by the Missouri Department of Conservation in 1972. He was born in Germany and has lived in the St. Louis area for many years. Although professionally he was a cost analyst now retired) for Union Electric Company, he is familiar to Garden Members or his expertise as a naturalist. His many activities include bird watching, rock and mineral collecting, and wildlower taxonomy, photography, and painting. Exhibits of his wildflower art have been displayed from time to time n the Lehmann Building. He is active in he Webster Groves Nature Study Society and the Missouri Native Plant Society, and he frequently leads tours to Shaw Arboretum and Tyson Research Center. His enthusiasm and knowledge have stimulated many others to learn more about the native Missouri flora, and this fund is an expression of appreciation and thanks for this.

Students interested in applying for travel funds should submit a short statement giving their intended destination, an overview of what is botanically interesting about the area or what plants hey might expect to find there, and round-trip mileage, to N. R. Morin, Administrative Curator, Botany Department, Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166.

Dr. Peter Raven accepting a $1,000 check from Mr. Peter Krombach, the first gift of the 1984 Henry Shaw Fund Campaign.

Anne L. Lehmann Elected Trustee Emeritus

The Board of Trustees of the Missouri Botanical Garden recently elected Anne L. Lehmann Trustee Emeritus. Mrs. Lehmann is the first person in the Garden's 125-year history to be so honored who has not served as a regular member of the Board of Trustees.

Mrs. Lehmann's contributions to the Garden have been many over the years. She, along with her late husband, John S. Lehmann, provided financial assistance to construct many of the Garden's more significant buildings and displays. Among these are the Climatron, constructed in 1960; the John S. Lehmann Botanical Research Center, constructed in 1972; and the Anne L. Lehmann Rose Garden, constructed in 1976 and winner of the 1983 All-American Rose Garden Award.

A native of St. Louis, Mrs. Lehmann was named a Woman of Achievement for Creative Philanthropy in 1972 by the St. Louis Globe-Democrat. She was also the co-founder of the Missouri Botanical Garden's Women's Committee (later changed to Members Board) and was active in the restoration of Tower Grove House. She was the first woman to receive the Garden's highest honor, the Henry Shaw Medal, which was awarded in 1981.

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A flotilla of canoes and jon boats were part of Operation Cleanstream on August 25. Twenty-eight volunteers from the Garden, Arboretum and Monsanto cleaned up five miles of the Meramec through the Shaw Arboretum so the river would be picture perfect for admiring the fall foliage.

Fall Garden Walks

Whether you are an "early bird" or a "night hawk" the Garden has planned special fall walks just for your tastes.

Early risers will be treated to "Breakfast With The Birds" on October 20 (rain date, October 27). Naturalist Claudia Spener will guide an early morning walk through the Garden seeking migrating birds and winter residents. Enjoy the fall colors along the way and work up an appetite for the continental breakfast to be served after the walk. Meet at the ticket counter in the Ridgway Center at 8 a.m. The fee is $8 for Garden Members.

Evening strollers will enjoy walks through the beautiful Seiwa-En, Japanese Garden. Charles Hooker, the curator of the Japanese Garden, will discuss the symbolism and philosophy of the garden as you walk through the living masterpiece. Two sessions are available, November 7 and November 8 (rain dates are November 14 and 15 respectively). The evening walks will begin at 5:30 p.m. in the Garden Room. The fee is $7.50 for Garden Members.

Call 577-5140 for your reservations or additional information.

Behind The Scenes with Cora Steyermark

Behind The Scenes is a charming book of recollections detailing the activities that go into the making of a major state Flora. Cora, who accompanied her husband Julian Steyermark, on his trips across the state of Missouri, has produced a delightful series of vignettes. The Steyermarks made hundreds of trips over thousands of miles on Missouri highways and back roads collecting plants and information for the monumental *Flora of Missouri*. This chronological tale begins with the earliest possible field trips in March and does not end until frosty October mornings.

After twenty years in Venezuela, the Steyermarks are now back home in their beloved Missouri, where Dr. Steyermark is working on his research at the Missouri Botanical Garden.

Behind The Scenes, which features a water color by Julian Steyermark on the cover, is available in the Garden Gate Shop or by mail for $6.50 each, including postage. Checks should be made payable to the Missouri Botanical Garden and sent to Department Eleven, P.O. Box 299, St. Louis, Missouri 63166-0299.

Garden Receives Four Grant Awards

The Missouri Botanical Garden has received four distinct grant awards which will contribute to special projec activities and assist with general operating expenses.

A grant from the CAMELOT/Specia Projects Fund of the Arts and Education Council of Greater St. Louis will help the Garden to broaden its interpretive education programs. The $56,000 award will help defray the costs of a new visitors' orientation film, adult and senior course development materials, and teacher training and teacher resource materials.

The Missouri Arts Council has awarded the Garden $32,500 to support planning for several gardens, including the Home Gardening Center and some new work in the Japanese Garden. In addition, a portion of the grant will be used to support the new orientation film and the cost of the Ernst Haas slide show and portfolio.

A portion of the Garden's general operating funds for this fiscal year were also provided through a grant of $50,000 from the Institute of Museums Services, a federal agency that offers general operating support to the nation's museums.

The Pew Memorial Trust, originally known as the Pew Foundation, has provided funds through a joint grant to the Missouri Botanical Garden and the New York Botanical Garden to continue the massive task of recataloging their specialized academic libraries. The grant will provide $300,000 over a two year period. When completed, the project will make specialized libraries more accessible to researchers and scholars who are seeking new scientific works or rare copies. It will allow for a larger interlibrary loan program and will make the literature available to more persons.

First Street Forum, a relatively young cultural institution located at 717 North First Street in Laclede's Landing, will join forces with the 125-year-old Garden for a special program in December.

Fall Lecture Series

The Garden offers *A Window on the World* through the Fall Lecture Series on October 3, 10, 17, 24, 31, and November 7. The lectures will be presented in the Shoenberg Auditorium in the Ridgway Center at 10:30 a.m. and at 8 p.m. on each date.

Situated as we are in the middle of a ery large country, Midwesterners may nd that the very breadth of our land is an obstacle to encountering other cul ures and understanding the resources of other countries—even our so-called "neighbors."

Daily news stories give us brief glimpses of the regions and peoples beyond our borders. Yet here in the Garden, we have a unique "window on the world" through many of our botanists who live and work in locations from New Calendonia to South Africa, as well as through the many visitors from abroad who work in our Herbarium.

Dr. Paul Garcia, Chairperson of the Language Department, St. Louis University, will present the opening lecture, "Interconnections," on October 3, looking at different cultures and human values in an historical perspective.

The lecture for the 10th of October is to be announced later.

On October 17, Dr. Alwyn Gentry of the Garden staff will present the slide/lecture, "Exploring for Plants in Amazonian Peru," where he recently spent five months. (His and others' work there has helped to identify several Peruvian plants of potential economic importance.)

On October 24, Dr. William D'Arcy, who has directed recent studies in Panama, will introduce us to the Panamanian countryside through slides. He will also talk about the economic problems there which are experienced to some degree from Pekin, Illinois to Peking, China.

"Argentina: Her People and Her Plants" will be explored in a slide/lecture on October 31 by Elsa Zardini, a visitor working in the Herbarium on the collections from her country.

The final lecture in our look at the world through the "window" of our Garden is entitled "Thinking Globally, Acting Locally." On November 7, David Wilson, Education Department, will pan over India and China with his slides, share his observations and reflect on his conclusions from these travels.

Harriet Bakewell

Special birthday greetings from the Garden to Harriet Rodes Bakewell on the celebration of her eightieth year, September 21, 1984. Mrs. Bakewell is the daughter of former Garden Director George Moore and spent a good part of her childhood growing up at the Missouri Botanical Garden. She even lived in Tower Grove House for awhile.

An accomplished landscape architect, Mrs. Bakewell's contributions to the Garden and the St. Louis area include the Lehmann Rose Garden, Shapleigh Fountain, work on the Japanese Garden, McDonnell Douglas Engineering Campus, Maritz, Inc. headquarters, and numerous private residences. Mrs. Bakewell was named a Fellow by the American Society of Landscape Architects in 1983. It is the association's highest honor.

Mrs. Bakewell planned to spend her birthday at the Garden's 125th anniversary celebration with friends and family.

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The Executive Board of the Members salutes the following companies and individuals who sponsored the 125th Anniversary Celebration:

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Herbarium Fellow Joins Garden

Dr. Steven J. Wolf began a one-year post-doctoral fellowship in the Herbarium in late August. Dr. Wolf received his Ph.D. in plant systematics from the University of Alberta, Canada, in 1981. For his dissertation he studied the relationships of the genus *Arnica* in the sunflower family. Arnicas are familiar to those who have visited the mountains of western North America, where the large, green plants with bright yellow heads dot the landscape. Since he completed his degree, Dr. Wolf has spent a year at the University of California at Santa Barbara studying the chemistry of the phlox family and two years investigating *Polygonum* evolution using cytological and morphological techniques. Most recently he had a teaching position at Whitman College in Washington. While at the Garden, he will be a National Museum Act Curatorial Trainee, a position that is funded by the National Museum Act specifically to train recent Ph.D.s in herbarium management practices. This will be the tenth year that the National Museum Act has funded such a position.

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Mausoleum Fence Being Repaired

Workmen from Florissant Ornamental Iron Works replacing a section o wrought iron fence surrounding Henry Shaw's mausoleum. Repair wo included straightening bent posts, recasting broken or lost pieces, welding a ditional supports and recurving the sections to conform to the original desig

Workers have recently completed installing a renovated section of wrought iron fence surrounding Henry Shaw's mausoleum in the Missouri Botanical Garden. The historically significant fence is being preserved and renovated through the combined effort of the National Park Service, Missouri Department of Natural Resources, Missouri Botanical Garden, and Garden Members and supporters.

According to Gerhardt Kramer, the supervising architect for the project, the fence was installed at Shaw's direction around 1885. Kramer, who has been instrumental in much of the Garden's historic renovation work, contracted with Florissant Ornamental Iron Works to remove, repair and re-install about 140 feet of fence or about one quarter of the fence around the mausoleum. The work included repairing the gat at the south end near Tower Grove House.

Funding for the first phase of the project came from a gran from the National Park Service through the state Division Parks and Historic Preservation and matching funds from th Garden, including a generous contribution by Mrs. A. Wesse Shapleigh. Total cost of renovating the entire fence is est mated at $50,000.

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Volume LXXII, Number 7
December 1984

Missouri Botanical Garden Bulletin

A Garden of Christmas Delights

December is filled with excitement, enchantment and tradition for visitors to the Missouri Botanical Garden. Mark your calendars now, and please note that many activities are by reservation, so you will want to call early.

Yuletide at Tower Grove House

December 4 through December 31, the glorious country house of Mr. Henry Shaw will be ablaze with the tradition of Christmas. Visitors can see how a true Victorian House is decorated for the holidays. The Executive Board of the Members, the Tower Grove House Auxiliary, St. Louis Herb Society, Garden Club of St. Louis, Forsythia Garden Club, Village Garden Club, and the Rowena Clark Garden Club are all lending their time and talent to decorate Tower Grove House for your pleasure. An added attraction this year will be a special United Nations Tree in the South Parlor, which will be adorned with traditional ornaments from Germany, Sweden, Denmark, England, Japan and Mexico. The Herb Garden outside of Tower Grove House will sport a specially decorated tree for birds, the handiwork of Brownie Scouts. Tower Grove House is open daily from 10 a.m. to 4:30 p.m. Admission is $1, complimentary admission for Members, group rates for 15 or more persons is 65¢ each.

Candelight Tour

December 5 is a very special evening at Tower Grove House, when visitors will be treated to a candlelight tour. Reservations are required, and can be made by calling 577-5150. The tour hours are from 4:30 to 7:30 p.m. The fee of $5 per person includes the tour and refreshments in the Tea Room. Call early to reserve your space.

Christmas Luncheon

During this busy time of year, take a moment to stop and enjoy the season with a Christmas luncheon at Tower Grove House Tea Room. Three luncheons are offered this season in the Tea Room, on Tuesday, December 11, Wednesday, December 12, and Thursday, December 13. Tables for four and six are available. Luncheon is $6 per person. But call 577-5150 now, since reservations are limited.

A Renaissance Evening

Enjoy the sights and sounds of a Renaissance Christmas on December 21 beginning at 6:30 p.m. Jesters, harpsichord music and strolling minstrels will greet you as you enter the Ridgway Center. Enjoy refreshments from the cash bar as you walk through the magnificent Holiday Plant Show and view the first Christmas Tree Exhibit in Monsanto Hall. At 7:30 p.m. the film, "O That We Were There," will be shown in Shoenberg Auditorium. At 8 p.m. the Madrigal Singers of St. Louis will take over the stage for a performance of period music. Admission to A Renaissance Evening is $2 for Members, $3 for non-members. Call 577-5125 for information about A Renaissance Evening. Call during business hours, Monday through Friday.

Supper With Santa

The Garden is offering a delightful Christmas package for families this

(continued on page 4)

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The MISSOURI BOTANICAL GARDEN BULLETIN is published seven times a year, in February, April, May, June, August, October, and December by the Missouri Botanical Garden, 4344 Shaw Boulevard, St. Louis, Mo. 63110. Second Class postage paid at St. Louis, Mo. $12.00 per year. $15 foreign.

The **Missouri Botanical Garden Bulletin** is sent to every Member of the Garden as one of the benefits of membership. For a contribution of as little as $30 per year, Members also are entitled to: free admission to the Garden, Shaw Arboretum, and Tower Grove House; invitations to special events and receptions; announcements of all lectures and classes; discounts in the Garden shops and for course fees; and the opportunity to travel, domestic and abroad, with other Members. For information, please call 577-5100.

Postmaster: send address changes to P.O. Box 299, St. Louis, MO 63166.

Comment

We are looking forward to a tremendously exciting holiday season here at the Garden, and I invite you and your family to share in the festivities.

With the able assistance of the Executive Board of Members, we are beginning a bright new tradition. Monsanto Hall will feature seven magnificent Christmas trees, this year decorated by St. Louis' most prominent floral designers.

The old familiar traditions will be honored as well. Tower Grove House will be decorated in true Victorian style, and Orthwein Floral Hall will be filled to overflowing with plants of the season. The Holiday Flower Show will be the culmination of a year of exceptional flower shows.

The Garden Gate Shop is filled with delightful gifts and plants of the season for your leisurely shopping convenience.

And for those of you who are seeking a tranquil moment in the midst of the Holidays, remember that the Missouri Botanical Garden really is a garden for all seasons. Nothing is quite as beautiful as the Seiwa-En Japanese Garden on a winter day.

From all of us here at the Garden, to all of you who have supported us during this spectacularly successful year, best wishes for a Happy Holiday season.

Peter H. Raven

Visitors From Our Sister City In Japan

The Missouri Botanical Garden played host to ten visitors from St. Louis' Sister City of Suwa, Japan on October 12, 1984. The delegation included an educator, director of a dance group, two aldermen, a housewife, a teacher, a restaurant manager, two tourist officers, a university professor and a superintendent of education. Their interests were varied, and the language barrier made for some interesting moments, but all were fascinated by the 14-acre Seiwa-En, garden of pure, clear, harmony and peace.

They returned to the Garden the following evening to see the performance of "Tropic Etude" by the Missouri Concert Ballet. Yeichi Nimura, the late choreographer of "Tropic Etude," was a native of Suwa.

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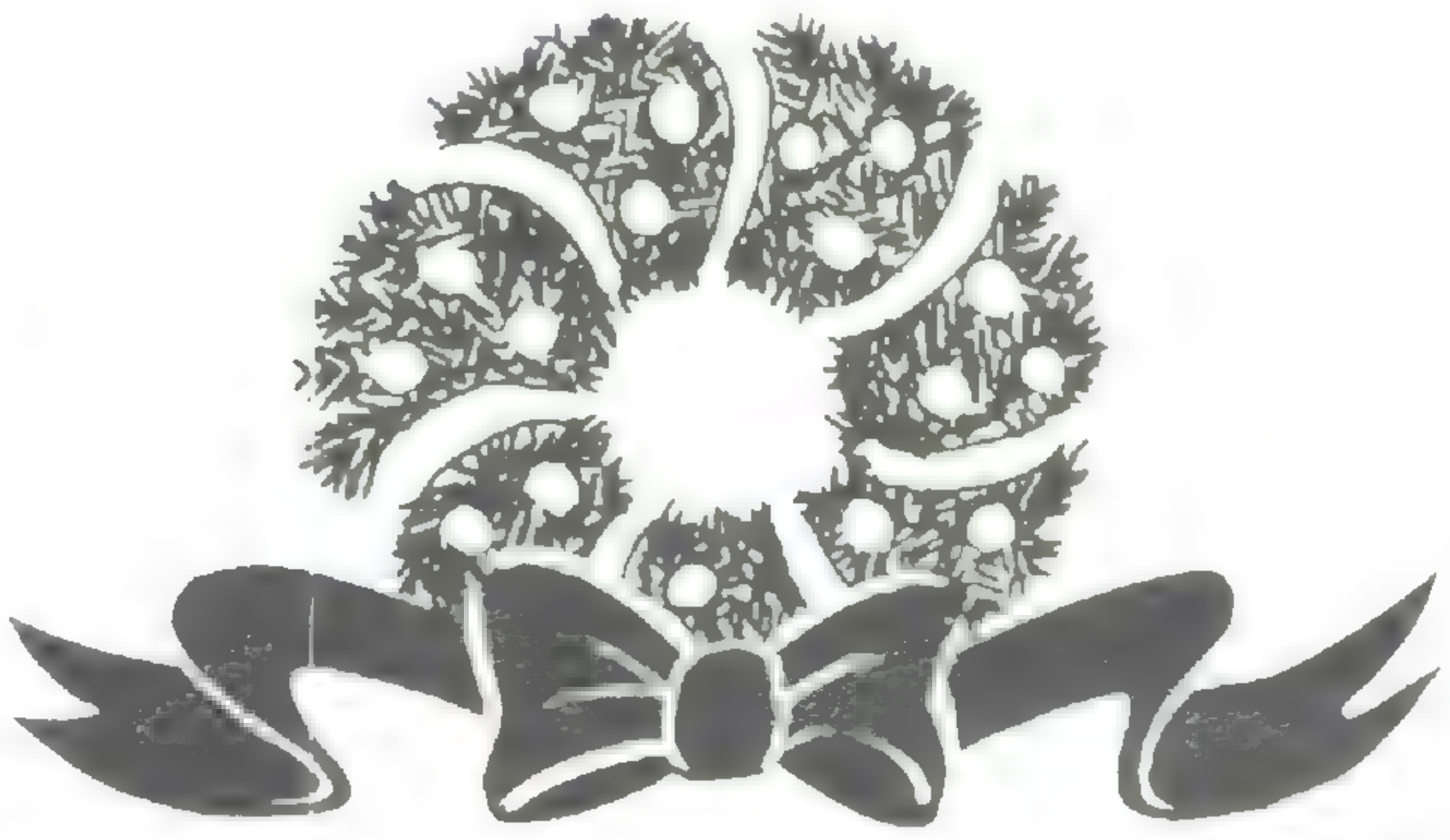


A Garden of Christmas Delights

(continued from page one)

year. Supper With Santa on December 14 from 5:30 to 8 p.m. is designed for parents and children. The evening begins with a special restaurant offering and a visit with Santa Claus. Clowns and magicians will also be on hand to delight the young and old alike. Following dinner, at 7 p.m., the Metro Theater Circus will present "Vision of Delight" in the Shoenberg Auditorium. "Vision of Delight" is based on the holiday musings of Ben Johnson and is sure to enchant your whole family. Information on reservations and prices for Supper With Santa is available by calling 577-5125 during business hours, Monday through Friday.

A Gift From The Garden

As a special holiday surprise, the Garden will be open to the public one evening during the season. A Gift From The Garden will include a variety of programs on December 19 from 5 to 8 p.m. Visitors are invited to stroll through the Holiday Plant Exhibit, view the special Christmas Tree Exhibit, dine in the Gardenview Restaurant, and shop in the unhurried atmosphere of the Garden Gate Shop. Santa Claus will be on hand for picture-taking (modest charge for photos). At 6 p.m. the children's theatre group of the Repertory Theatre of St. Louis, the Imaginary Theatre Company, will perform "The Gift of the Magi and Other Holiday Tales" in Shoenberg Auditorium. At 7:30 p.m. there will be a showing of the magnificent flower slide show by noted photographer Ernst Haas. As the Garden's Gift to St. Louis, there will be no admission charge to the Garden and no admission charge to the entertainment programs.

Christmas Cheer for Members

Two very special times this season have been set aside for the enjoyment of our Members. On December 7, from 5:30 to 7:30 p.m., Members are invited to step inside a Christmas memory. The Ridgway Center will be resplendent with the sights, sounds and smells of the holidays, and Members will have the first peek. The Orthwein Floral Hall will be ablaze with poinsettias, holiday plants and charm for the **Members' Preview** of the Holiday Plant Show. Monsanto Hall will be decorated with seven magnificent nine-foot Christmas trees. (See companion story, "O Christmas Tree," page 5.) Entertainment for the evening will be provided by the Gateway Brass Quintet.

Family Holiday, designed especially for Members and their entire families, will be held on December 8 from 9 a.m. to 2 p.m. Kids Who Care Theatre Group will present "Christmas at the O.K. Corral" at 11 a.m. and 12:30 p.m. in Shoenberg Auditorium. Beginning at 11:30 a.m. the Girl Scout Council of Greater St. Louis will provide caroling in the Ridgway Center, and at 1:30 p.m. children will be treated to Walt Disney's classic "Peter Pan" in Shoenberg Auditorium. From 9 a.m. to 2 p.m., City Gardeners will demonstrate the making of "tussie mussies" and share their ideas for Christmas decorating using dried plant materials and herbs. City Gardeners will also have items for sale. Family Holiday will also bring a unique exhibit of toys, games, dolls and woolly sheep, which would be the delight of turn-of-the-century children. The collection from the Eugene Field House and Toy Museum will be in Monsanto Hall.

Gift Ideas Abound In Garden Shop

All the special goodies that make the holidays exciting are nestled in the Garden Gate Shop. The shelves are bursting with enchanting gifts for everyone on your list, and best of all—Members are treated to a 20% discount during the Holiday Sale, December 7, 8, and 9. The Shop will be open from 9 a.m. to 7:30 p.m. on the 7th, and from 9 a.m. to 4:30 p.m. on the 8th and 9th.

Holiday plants abound with exceptional poinsettias, cyclamen, and Christmas cactus. Indoor bulb kits provide an early peek at spring, just when you need it most. There are exotic tropical plants which can be enjoyed year round.

Bird lovers will enjoy a wide array of birdfeeders, seedcakes and delicacies for nature's friends. Who wouldn't love a book on gardening to plan and dream about next spring? A new collection of windchimes is available and the latest in gardening tools has just arrived. A variety of sundials are displayed to provide that certain ambience to any garden.

And where else but the Garden Gate Shop would you find the most enchantingly decorated live Christmas trees for giving? Holiday windsocks are a neat, mailable idea for a present. There is even a record album of music box tunes. For the gourmet on your list, how about some delicious preserves or maple syrup? As you would expect from such an exceptional shop, there are little potpourri presents, nostalgic wreaths and hanging decorations of dried flowers and vines. Every nook and cranny holds a little surprise that is just right for stuffing a stocking toe.

This is just a tiny sampling of the thousands of gifts at the Garden Gate Shop. Best of all, these delights are right here in the relaxing atmosphere of the Garden, where there is ample, free parking and a knowledgeable staff to help you.

A Gift That Grows All Year

What is the ideal holiday gift for young and old? A gift that lasts all year and changes with every season? A Membership in the Missouri Botanical Garden of course!

Your recipient receives a holiday gift card with your name, telling them of your gift of a Garden Membership, and we also send them our 1984 Holiday Tree Ornament.

With the gift of Garden Membership, you are also giving them an invitation to over one hundred exciting events next year, exclusive invitations to special Members' Previews of floral and art shows, gardening information and news from the *Bulletin*, and special discounts in the Garden Gate Shop.

Order your gift memberships now to insure delivery by the holidays. Special discounts are available for multiple Memberships. To purchase your gift Memberships or for more information, please call the Membership office today at 577-5118.

O Christmas Tree!

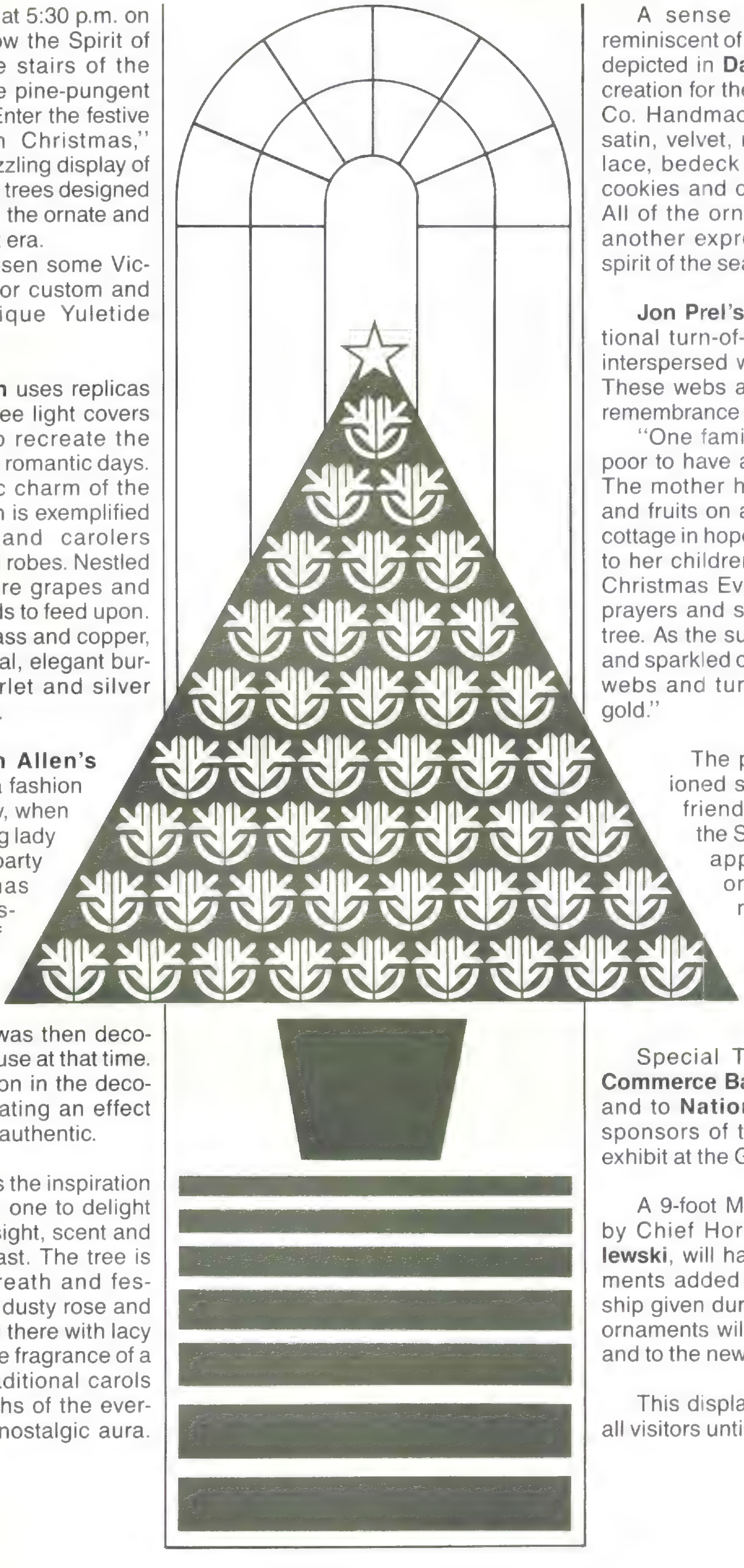
Come to the Garden at 5:30 p.m. on December 7th and follow the Spirit of Christmas Past up the stairs of the Ridgway Center into the pine-pungent arch of Monsanto Hall. Enter the festive realm of "A Victorian Christmas," brought to life amid a dazzling display of candlelit and beribboned trees designed by six St. Louis florists in the ornate and picturesque mode of that era.

Each florist has chosen some Victorian holiday tradition or custom and embodied it in a unique Yuletide creation.

David Cumberworth uses replicas of cozy old-fashioned tree light covers and stately candles to recreate the warm ambience of those romantic days. On his tree, the classic charm of the Victorian holiday season is exemplified by baroque angels and carolers bedecked in period cloth robes. Nestled among the branches are grapes and berries for heralding birds to feed upon. Touches of gleaming brass and copper, misty amethyst, rich coral, elegant burgundy, traditional scarlet and silver adorn the broad boughs.

Sandra and Ralph Allen's design is derived from a fashion at the turn of the century, when it was popular for a young lady attending a Christmas party to dress as a Christmas tree. The original costumes were made of green cambric with tissue paper fringe to achieve the effect of needles. Her costume was then decorated with ornaments in use at that time. They emulate this fashion in the decoration of their tree, creating an effect that is most unusual yet authentic.

A Victorian Garden is the inspiration for **Ken Miesner's** tree, one to delight all the senses with the sight, scent and sounds of Christmas Past. The tree is frosted with baby's breath and festooned with garlands of dusty rose and mauve, caught here and there with lacy nosegays, heady with the fragrance of a Victorian potpourri. Traditional carols emanate from the depths of the evergreen to complete the nostalgic aura.



A sense of love and harmony, reminiscent of the nineteenth century, is depicted in **Dale Rohman's** "heartful" creation for the George Waldbart Floral Co. Handmade hearts, embroidered, satin, velvet, moire taffeta, eyelet and lace, bedeck the tree. Heart-shaped cookies and candies repeat the motif. All of the ornaments are handmade, another expression of love, and the spirit of the season.

Jon Prel's tree is trimmed in traditional turn-of-the-century ornaments, interspersed with golden spider webs. These webs are placed on the tree in remembrance of a 19th century folk tale:

"One family in the village was too poor to have a proper Christmas Tree. The mother hung a few meager nuts and fruits on a small tree outside their cottage in hopes of bringing more cheer to her children on Christmas Day. On Christmas Eve the spiders heard her prayers and spun their webs over the tree. As the sun rose, its rays glistened and sparkled on the dew on the spiders' webs and turned them to silver and gold."

The pineapple is an old-fashioned symbol of hospitality and friendship. **Roz Burkhardt** of the Striped Gazebo uses pineapples and other period ornaments on her tree to represent the friendship and harmony prized in the Victorian era—a time long past but never to be forgotten.

Special Thanks are due to the **Commerce Bank of St. Louis County** and to **National Supermarkets**, cosponsors of the first Christmas Tree exhibit at the Garden.

A 9-foot Members' Tree, decorated by Chief Horticulturalist **Alan Godlewski**, will have special Garden ornaments added with each gift membership given during December. Duplicate ornaments will be given to each donor and to the newly enrolled members.

This display will remain on view for all visitors until January 4.

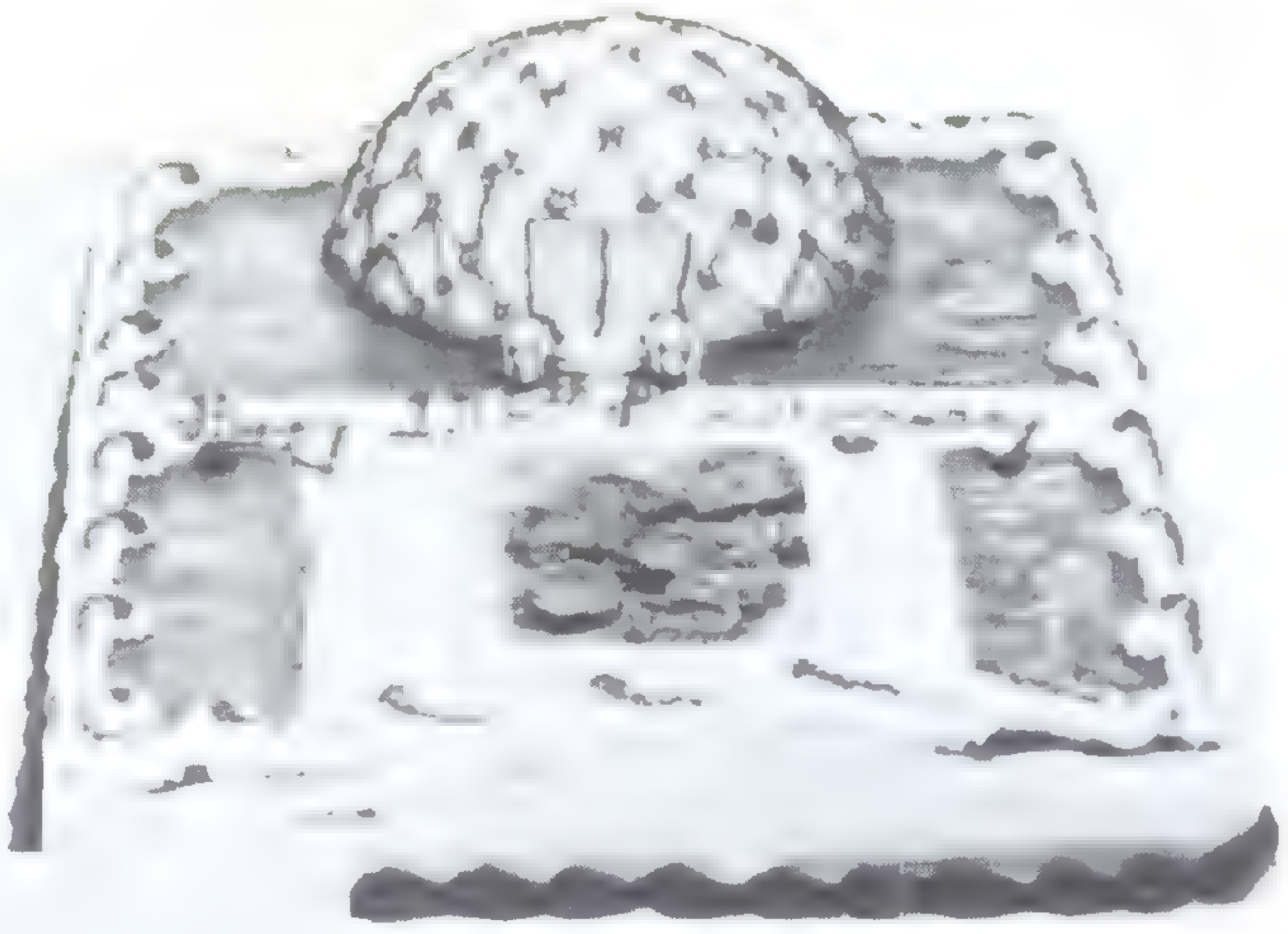
The Party's Over

The party's over! Gone are the 40 birthday cakes, the posters, the membership applications; Gone are the myriad red and blue tickets; Gone are the 1200 leaves and the laminating material, the beer, soda, and food; Gone is John Fuller's weather station; Gone are all the wonderful singers and dancers, the musicians, the puppeteers, the fabulous clown, our superior juggler, our magician; Gone are the celebrity judges, the master gardeners, our master control communication station and their radios and, last but not least; Gone are the fireworks that never were.

It's all gone! But what's left behind are the memories: memories of a day that rained continuously non-stop from 4:30 a.m.; memories of some 2500 plus people who, in spite of the weather, came to the Garden to help us celebrate our 125th birthday (just imagine the numbers had it been a sunny day); memories of the Garden staff—Randy Emberg, who gave up his first day of vacation to help us with all the sound systems we needed; Teri Dresler, Kelly Murphy and the events staff, who hauled and carried and set and reset and shifted tables, chairs, beer, soda, you name it—from one location to another; memories of our wonderful security staff—John Hancock, Paul Brockmann, and all the other guards stationed in the tent, Ridgway Center, parking lot and elsewhere until the last soul left the Garden; memories of the special events and public relations people—Kim Evans, Sue Strommen, Deborah Graham, Lee Fox, and their continuing desire to help make everything perfect; memories of our wonderful membership staff—Rosemarie Voelker, Cindy Grueninger, Barb Jordan, and Kathy Potter, who typed and mailed more lists and letters than anyone could imagine and worked on the 22nd as well; memories of our wonderful Clara McLaughlin and her staff who greeted wet, soggy people with a friendly smile and enthusiasm all day long.

The 22nd of September took teamwork—staff and volunteers working and planning together. I am so very proud of and indebted to so many of the Board members for their untiring efforts, and long hours of hard work; to Mim Kittner, whose outstanding entertainment brightened every hour of a dismal day; to John Fuller and his fascinating weather station, as well as his live, wet broadcast of the 6:00 o'clock weather; to Terry Conway and her wonderful master bakers and their birthday cakes (they were really popular both with the media and the public—we sold 28 new memberships because of them); to Sue Oertli and her membership-information services outpost—they were grand and Sue, personally, put in about a 14-hour day; to Jean Zinsmeyer who worked any and everywhere she was needed; to Elaine Alexander, Deedee Stivers and their crew who laminated everything that wasn't nailed down—over 900 bookmarks, actually; to Charla Gray and Linda Gray who headed up the volunteer crew to sell soda and beer (many of whom were provided for us by Jeanne McGilligan, our Volunteer Coordinator)—these gals spent many cold hours under the tent; to Don Wolfsberger and Diane Breckenridge for the food operation; to Ashley Gray, David Wells, Peter Flanigan, Parker Condie, Sue Cjeka, Jack Jennings, George Hasegawa, Mary Randolph Ballinger, Julie McMillan, Jane Coultas, Mary Ella Alfring—all of you who came and worked—you were fabulous; to Kimmy

Rozanek Bakery



Seibold's Bakery

Brauer, who worked so diligently with public relations to ensure the best publicity the Garden has ever had for a single event; to Mary Zorensky and to Jack Jennings, again, for his outstanding job of organizing and running our sponsor solicitations (and to those of you who were successful); to Bill Frank, Bill Dodey and Betty Parky, who organized and manned the master gardener services and who braved the elements at Flora Gate until we managed to move them into Ridgway; to Ann Maritz for making our beautiful poster possible and to Mike Foley for his artistic rendering; to Forrest Murphy and his crew for our communications system—what a lifesaver; to Mico Murphy for being the Pied Piper, along with the clown—leading people to the tent so that we could give Don Schuh, the caterer, some business.

To all of you—I hope I haven't omitted anyone—my deepest thanks.

Last, but certainly not least, the person who really deserves the kudos and the credit for making it all happen is Ellen Dubinsky. She guided, cajoled, persuaded, organized and directed every step of this event from the early stages of development until the very last hour on the 22nd of September. I know I express all of our sentiments when I say a special thank you to Ellen for an outstanding job!

Although it rained on our parade, and our attendance really suffered, the day was a huge success! The publicity was priceless, the good will generated towards the 2500 people who came was priceless, the teamwork was priceless; and there's no doubt in my mind that had it been a good day, we would have had so many people at the Garden we would not have known what to do with all of them!

Again, my thanks to all of you—it was a day to remember!

—Nora Stern
President, Executive Board
of the Members

FOR Younger MEMBERS

Making Your Own Christmas Cards

Cards and gifts galore are given and received during the holiday season. Each gift is carefully wrapped and decorated with colorful paper, ribbon, gift tags or greeting cards. You can add a personal touch to gift giving by designing your own paper, tags or cards. Here are some ideas for creating unusual and beautiful designs on paper by using parts of plants, including fruits and vegetables.

You will need: a variety of vegetables and fruits, such as mushrooms, peppers, onions, artichokes, lemons, broccoli, potatoes; flat evergreen twigs, such as pine, arbor vitae, yew; tempera paint in the color(s) of your choice, or stamp pads in several colors; crayons; miniature cookie cutters in holiday shapes; small paint brush; knife; plate; plain or colored paper.

What to do: A. Lengthwise, crosswise—any way you slice them—vegetables and fruits offer cut surfaces that make beautiful and unusual prints. Select a fruit or vegetable and cut it either lengthwise or crosswise, exposing two flat surfaces. Spread a small amount of tempera paint onto a plate. Dip the flat, cut surface of the fruit or vegetable into the paint; or, use a brush to apply paint to the cut surface. Press the painted surface of the fruit against a plain piece of paper to make a print. Remove the fruit or vegetable carefully and allow the paint to dry. Repeat this process as many times as necessary to create a pattern or to cover the surface of your paper.

B. To make designs from rubbings, select an evergreen twig and a crayon in a color of your choice. Place the twig beneath a sheet of plain paper. Remove the paper wrapping from the crayon. Use the side of the crayon to rub over the paper. The impression of the twig will gradually appear on the surface of the paper. Try rubbing arrangements of two or more twigs.

C. Potato print paper and cards are easy and fun to make. Cut a potato in half. Use a small cookie cutter to cut a design from the potato. Or, carve out your design using a knife. Cut away the unnecessary pieces of potato surrounding your design. You will be left with a raised "potato stamp." Color the "stamp" by rubbing it on an inked stamp pad or painting it with tempera paint. Press the colored "stamp" against a piece of plain paper in order to make a print. Allow the print to dry. To make a pattern, repeat the stamping process, using one or more "stamps" or colors.

On this page you will find a blank square of paper with a border design. Cut out the square. Use it to create your first greeting card by trying one of the processes described above.

When you have finished placing a design on the paper, glue it to a folded piece of construction paper. Print your holiday message on the inside of the folded paper. Give the card to someone special!

—Ilene Follman
Education Consultant

Family Wreath Class

Deck the halls and fill your house with the seasonal scents of beautiful wreaths made from fresh cut evergreen boughs. Each participant should bring one wire clothes hanger bent into a circle and a pair of pruning shears. All other materials provided.

One Session: December 8
10:30 a.m. to 12:00 noon
Missouri, Botanical and Beaumont Rooms
Fee: Members: Adults $5.00, Children $3.00; Non-members: Adult $6.00, Children $3.50
Registration is required, call 577-5140.

CALENDAR OF EVENTS

December Events

December 1
Cahokia—A Prehistoric City
Join William R. Iseminger, Site Interpreter for Cahokia Mounds Historic Site, to find out how scientists can learn about ancient civilizations through excavated artifacts. From 10:30 a.m. to noon in the Beaumont Room. Members: Adult $5, children $3; non-members: adult $6, children $3.50. Call 577-5140 for information and reservations.

December 4-31
Tower Grove House In Christmas Finery
See how a true Victorian House is decorated for the holidays. Free to Members. Open daily from 10 a.m. to 4:30 p.m.

December 5
Candlelight Walk Through Tower Grove House
A special evening tour from 4:30 to 7:30 p.m. The $5 per person fee includes a tour and refreshments in the Tea Room. Call 577-5150 for reservations.

December 7
Members' Holiday Preview
Be the first to step into a holiday memory. From 5:30 to 7:30 p.m. Members will be the first to view the extensive display in the Holiday Plant Show and see the magnificent trees in Monsanto Hall. Music by the Gateway Brass Quintet. The public display runs from December 8 through January 1 and will be open from 9 a.m. to 4:30 p.m. Ridgway Center.

December 7, 8 & 9
Holiday Sale in the Garden Gate Shop
Members receive 20% off on holiday surprises. Open December 7 from 9 a.m. to 7:30 p.m. and from 9 a.m. to 4:30 p.m. on December 8 & 9.

December 8
Family Holiday For Members
Films, children's theater, caroling, demonstrations and toy displays from 9 a.m. to 2 p.m. in Ridgway Center. (See "Christmas Cheer for Members," page 4.)

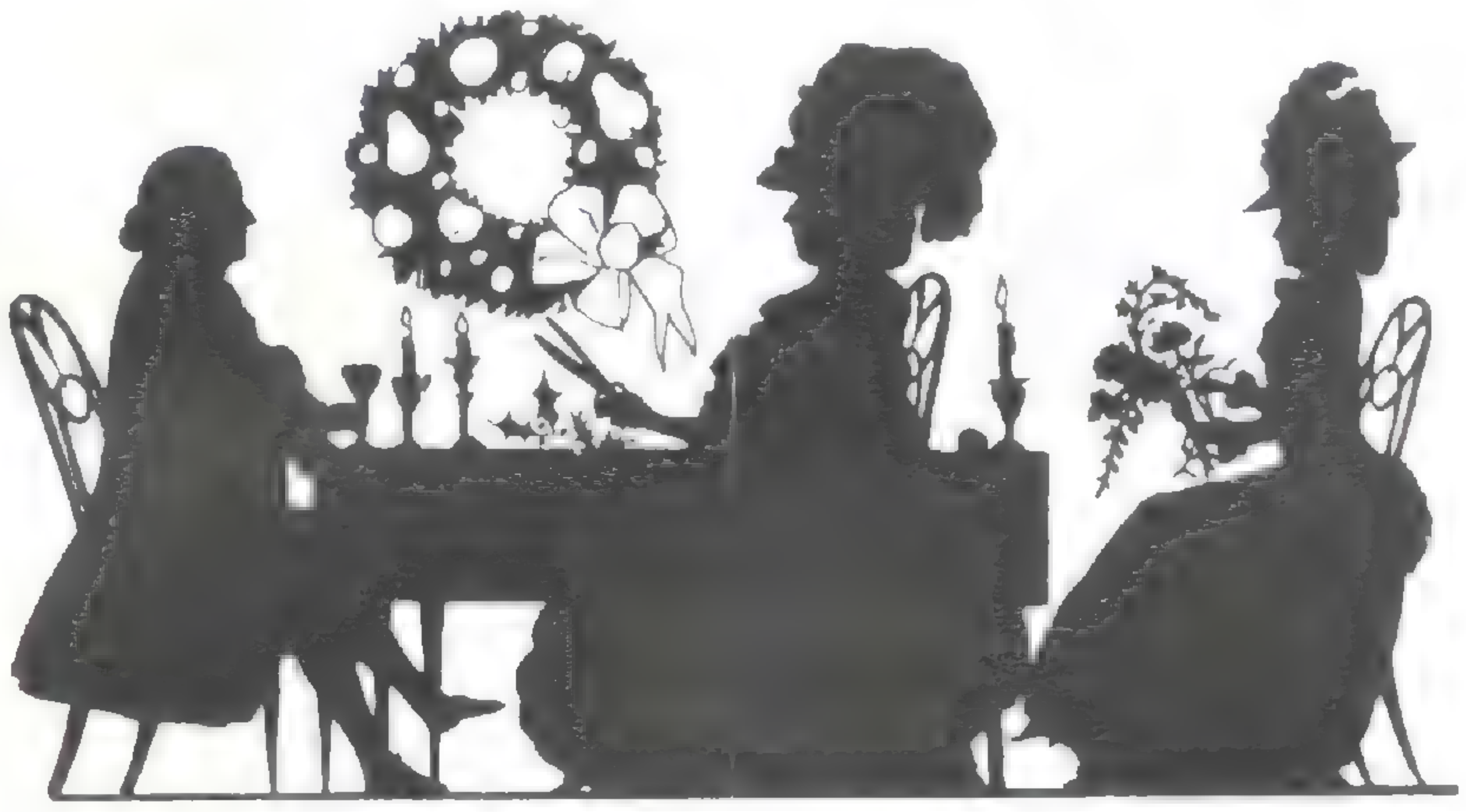
December 8
Family Wreath Class
Learn how to deck the halls with beautiful wreaths. Bring one wire clothes hanger and a pair of pruning shears. Other materials provided. From 10:30 a.m. to noon in Missouri, Botanical and Beaumont Rooms. Members, $5 for adults, $3 for children. Non-members, $6 for adults, $3.50 for children. Call 577-5140 for information and reservations.

December 11, 12 & 13
Holiday Luncheon at Tower Grove House
Take a break during this busy season to enjoy luncheon in the Tea Room of Tower Grove House. Tables for four and six are available. Luncheon is $6 per person. Call 577-5150 for reservations.

December 12
Wreath and Centerpiece Workshop
Learn to make seasonal ornaments with all natural materials provided. Bring your own pruning shears. Two sessions. From 1 to 3 p.m. and from 6 to 8 p.m. Members $25, non-members $30. In the Beaumont Room. Call 577-5140 for information and reservations.

December 14
Supper With Santa
A delightful holiday evening for parents and children. This Christmas package includes a visit with Santa Claus, dinner in the Gardenview Restaurant and a theatrical production "Vision of Delight" by Metro Theater Circus. For information on reservations and cost, call 577-5125.

December 15
Night Hike
Join the staff of the Arboretum for an exciting evening of star gazing, strolling in the moonlight, and listening to the night sounds of nature. Members $4.50, non-members $5.50. Call 577-5138 for information and reservations.



December 17
Della Robia
Learn a unique 18th century art of decorating evergreen wreaths with fresh fruit, nuts and seed pods. Materials will be provided, but please bring your own pruning shears. Two sessions in the Beaumont Room, from 10 a.m. to noon, and from 1 p.m. to 3 p.m. Members, $20, non-members, $24. Call 577-5140 for information and reservations.

December 19
A Gift From The Garden
Bring your family and enjoy photos with Santa (a slight charge), children's theater "The Gift of the Magi and Other Holiday Tales" and a showing of Ernst Haas' flower slide show. (See page 4 for details.)

December 20
Natural Tree Ornaments
Use spices, cones and seed pods to create delightful family keepsakes and ornaments. From 10 a.m. to noon in the Missouri Room. Members $12, non-members $14.50. Call 577-5140 for information and reservations.

December 20
Christmas Floral Arrangements
Using evergreens, poinsettias, and other seasonal materials learn to decorate your home for the holidays. All materials will be provided, but please bring your own pruning shears. From 1 to 3 p.m. in the Missouri Room. Members $21, non-members, $24. Call 577-5140 for reservations.

December 21
A Renaissance Evening
An evening full of entertainment with jesters, harpsichord music, a film and a performance by the Madrigal Singers of St. Louis. From 6:30 to 8 p.m. Members $2.00, non-members $3.00. (See page 1 for details.) Call 577-5125 for information.

December 25
Christmas Day
The Garden is closed. Have a happy holiday.

Calendar Note: Scheduling circumstances may dictate a change or cancellation of special events. Please call 577-5125 during the week to confirm an activity. Weekends, please call 577-5101.

Reservations for classes are limited and have been taken since the Fall Course Brochure was mailed. Classes listed are those that have openings as of our publication date.

Gardening In St. Louis

How To Buy a Christmas Tree

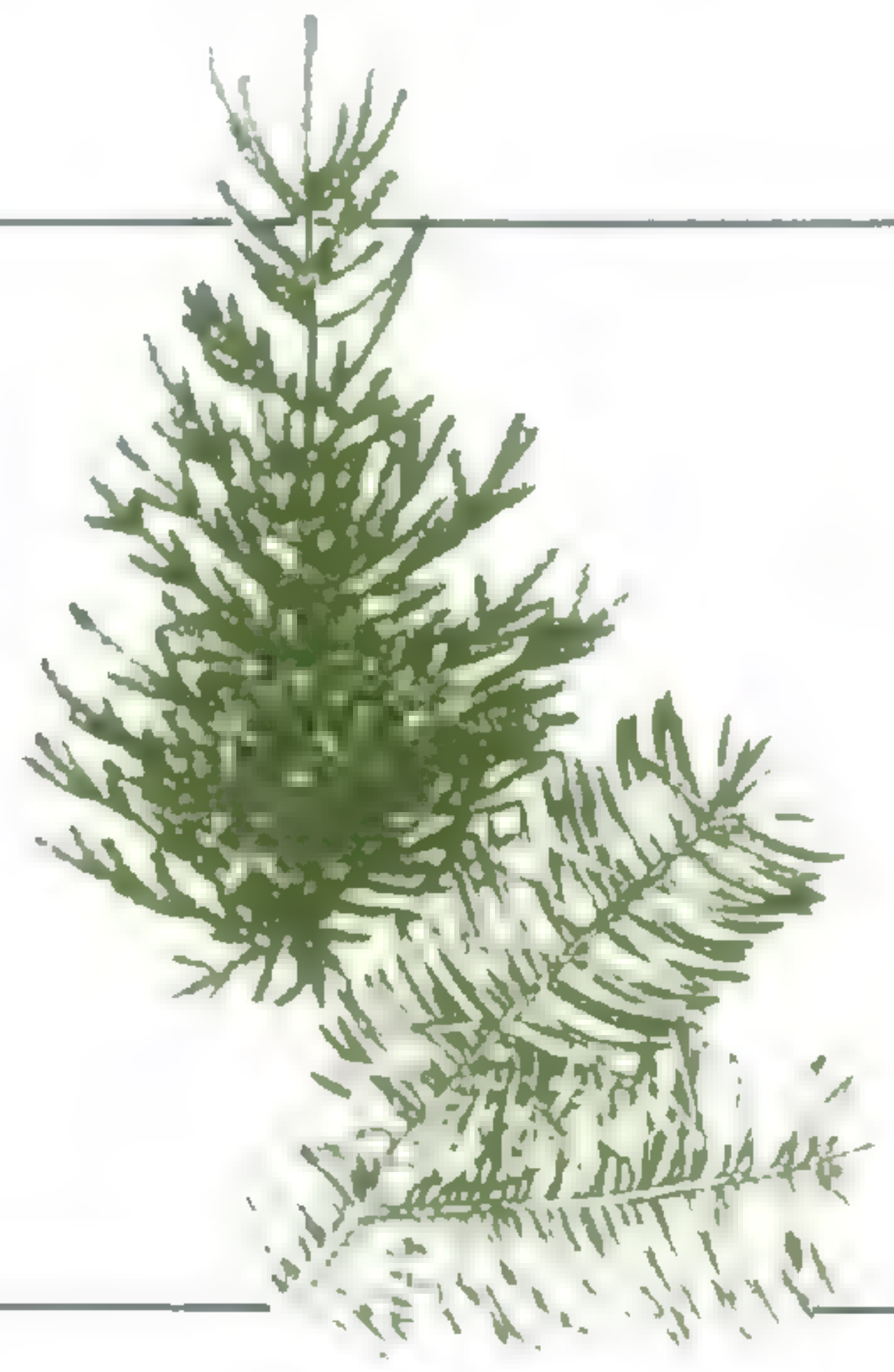
The tradition of a decorated Christmas tree in the United States may date back to the Revolutionary War, when homesick Hessian troops cut and decorated fir trees as was their German custom.

Since then, the Christmas tree—with its forest fragrance and freshness—has come to represent the Yule season. It is the mainstay of both indoor and outdoor holiday decorations.

Today, selecting the perfect Christmas tree is one of the highlights of many families' pre-holiday preparations. Choosing a tree that is "just right" for you will be easier if you know what species you are looking for, the different features that indicate a good tree, and how to select and maintain freshness.

Species

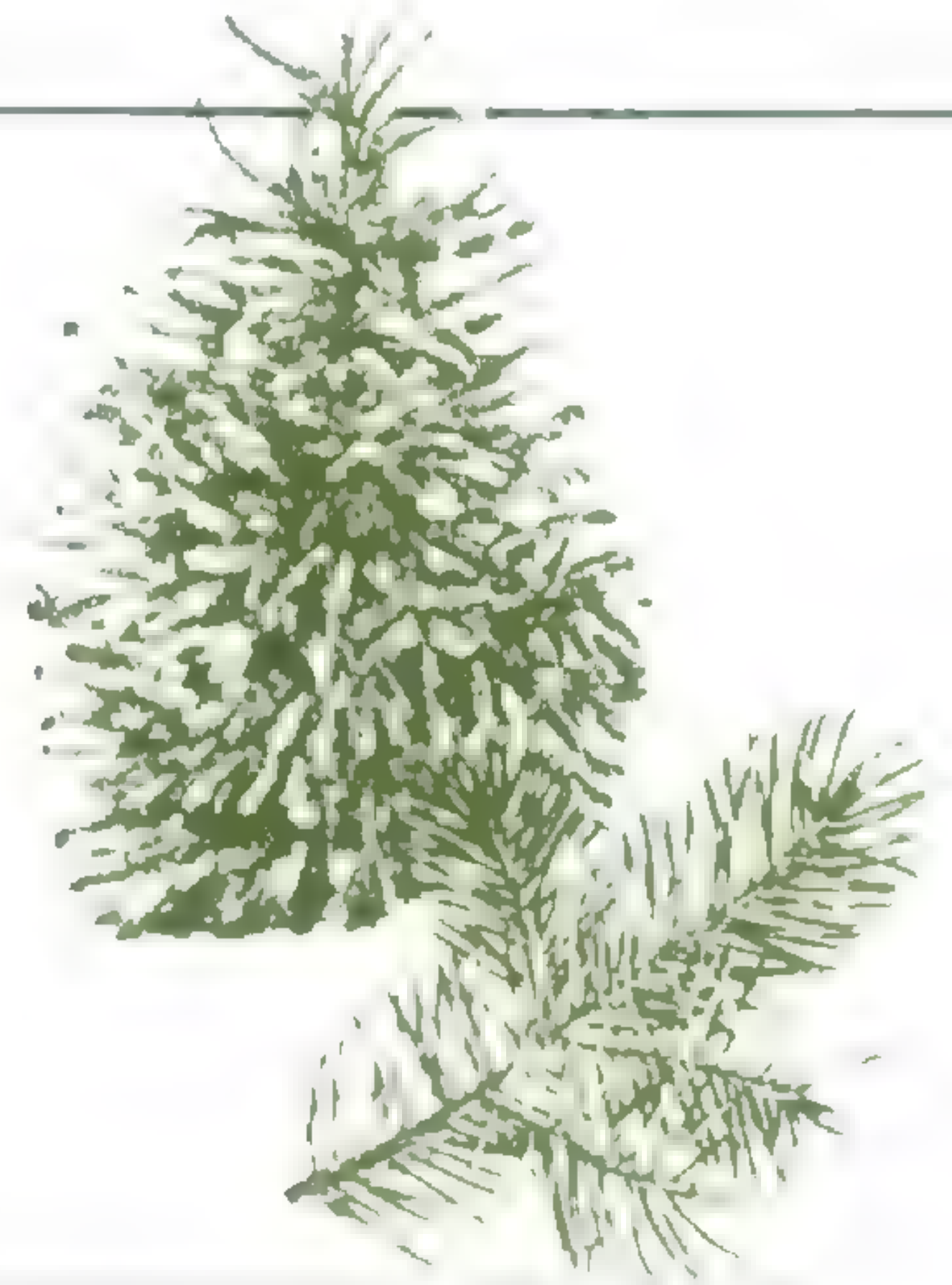
Practically all species of evergreens are used for Christmas trees, although some are more popular and are in greater supply than others. No one species can be considered the best all-round Christmas tree, for each has its own individual characteristics. Although people in some areas of the country have a preference for a certain species, there are five that are most widely grown and sold. Each one is not available to consumers in *every* part of the country.



Balsam fir

The **Balsam fir** has short, flat dark green needles, usually rounded at the tips. The needles are arranged feather-like on grayish, finely hairy twigs. The tiny twigs grow at right angles to each branch, resembling crosses (perhaps a reason for their popularity at Christmas), and the rounded bud tips are coated with a waxy pitch.

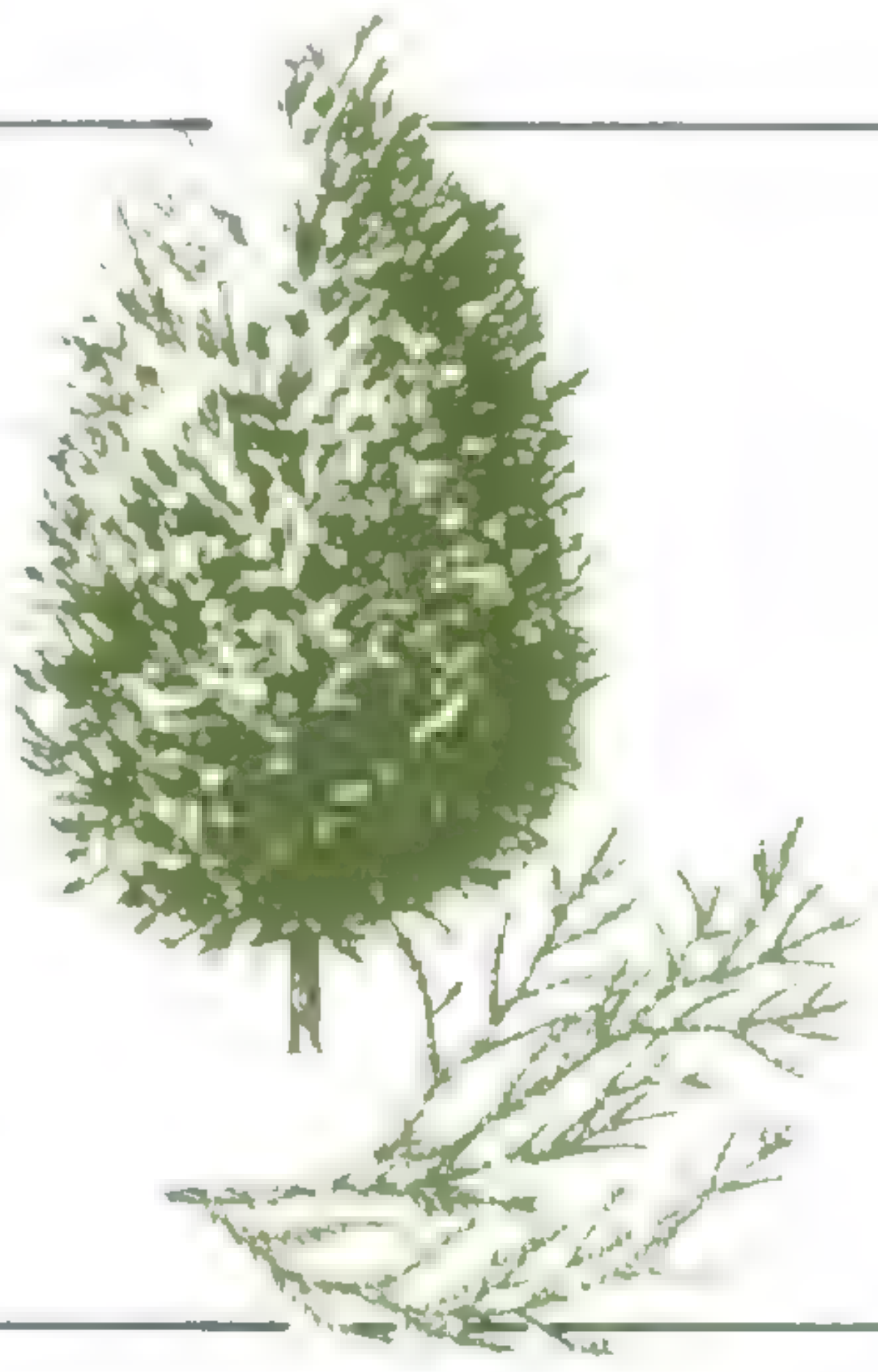
When cones are present on the Balsam fir, they are attached upright to the branch and are 2 to 3 inches long. They are purple and often resinous. The bark of the Balsam fir is gray or brown, thin and quite smooth—often with many resin blisters.



Douglas fir

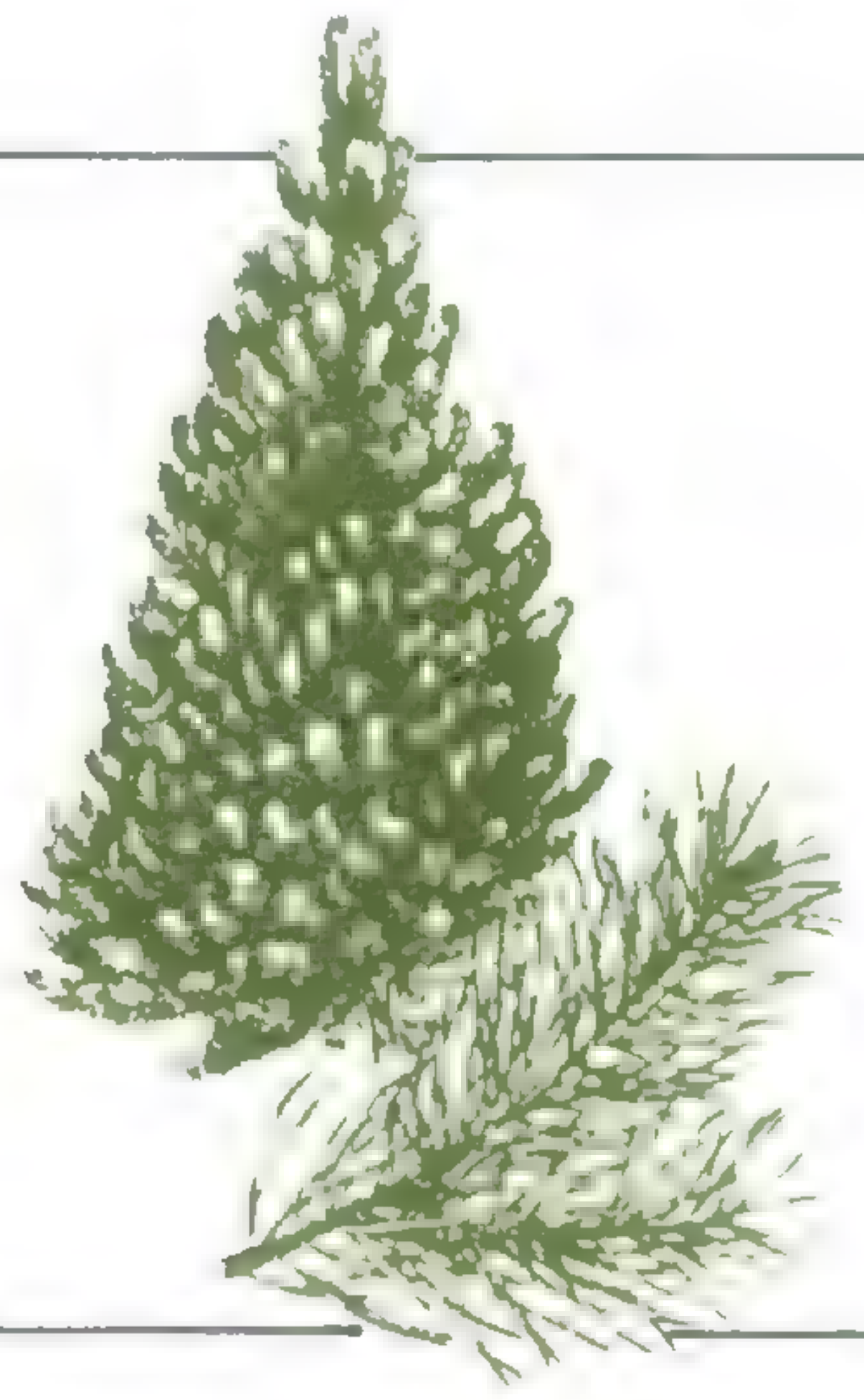
Another short needled fir, the **Douglas fir** has needles that are attached around the twig instead of in the feather-like arrangement of the Balsam fir. The needles are short-stalked soft and pliable and are dark yellow-green or blue-green. While most true fir trees have rounded blunt buds, as you will find in the Balsam fir, the Douglas has reddish-brown buds that narrow at the tip into a sharp point.

The cones make identification of the Douglas fir very easy, for they hang downward with long 3-toothed leaf-like bracts sticking out conspicuously beyond the tips of the thin, rounded cone scales. These light brown cones are from 2 to 4 inches long. The bark of the tree is dark or reddish brown.



Eastern Red-cedar

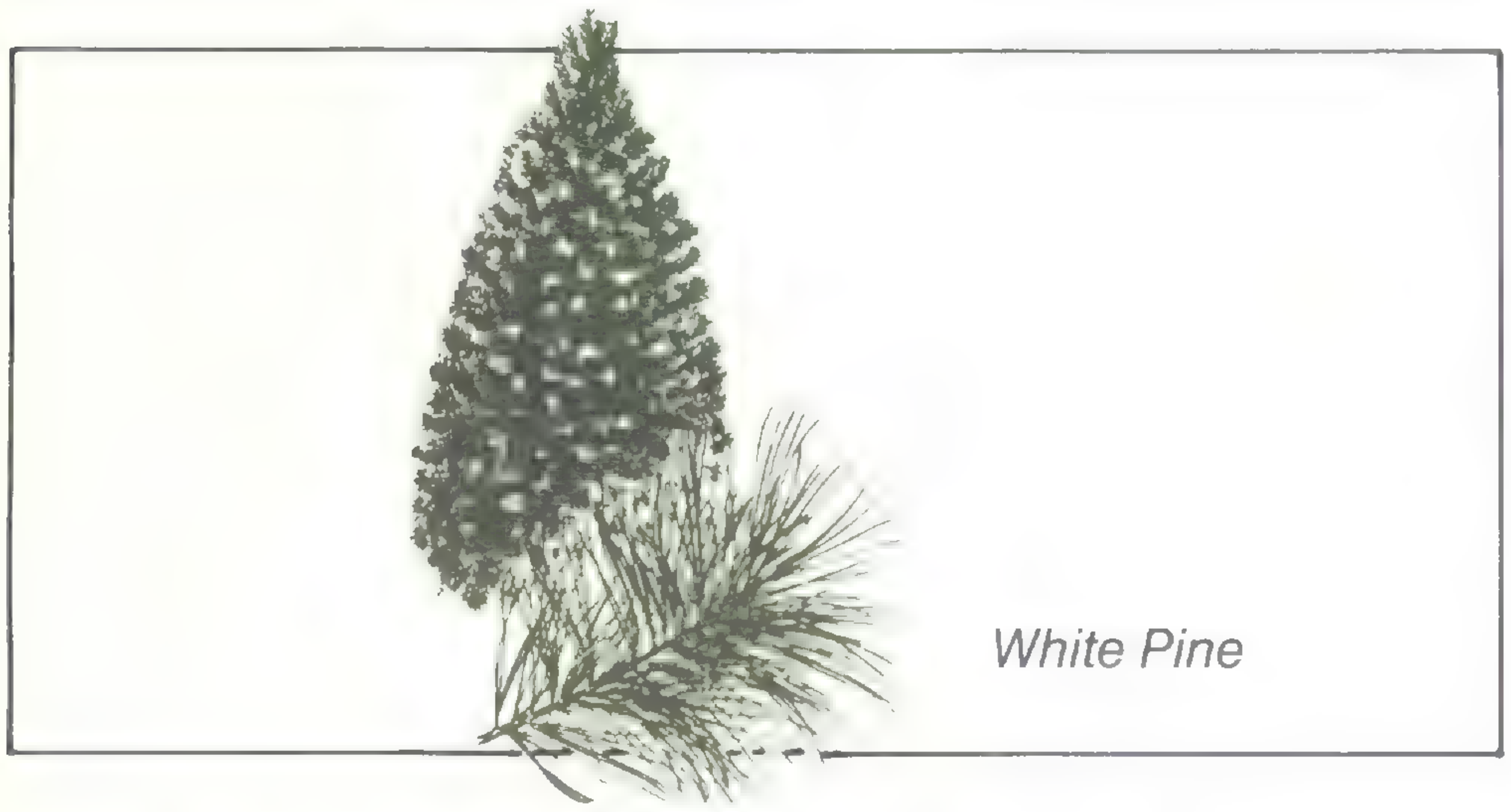
It usually is easy to identify an **Eastern Red-cedar** because its characteristics are so different from the other Christmas tree species. The Red-cedar has extremely short, dark blue-green, scale-like leaves. However, the leading shoots bear needle-like leaves almost half an inch long and the leafy twigs are rounded or four-angled and slender. Like its western cousin, the juniper, the Red-cedar bears berry-like fruit. The small round berries are dark blue and the bark of the tree is reddish-brown and fibrous.



Scotch Pine

The **Scotch Pine**, a very fast growing tree, has needles longer than the Balsam and Douglas firs. The needles grow in clusters of two and are dark blue-green in color, usually twisted, and from 1½ to 2½ inches long. However, within the past several years several varieties have been produced with shorter needles.

With proper pruning and trimming the Scotch Pine can be made very bushy, which is a desirable characteristic for a Christmas tree. It is a very popular tree partly because it holds its needles longer than most others. The Scotch Pine has cones between two and five inches long. The top of the scales are flat with a slender prickle. The bark is scaly and bright orange-red, but somewhat darker on older trees.



White Pine

Both eastern and western **White Pines** are very much alike, with silvery blue-green needles that are soft to the touch. The very slender Eastern pine needles are quite long—2½ to 5 inches—and are grouped together in clusters of five. The needles of the western White Pine are shorter and stouter. The eastern White Pine has long stalked, yellow-brown cones with thin round scales. The cones of the western variety are very similar, but longer. The thin, smooth bark of both species is grayish green to dark green.

U.S. Grades

About 25 years ago, the U.S. Department of Agriculture established voluntary standards of quality for Christmas trees.

In selecting just the right tree for decorating, most people look for a tree that is healthy, free from damage and smoothly cut. They generally want a tree that tapers gently from a full bottom and has an ample number of branches for hanging ornaments.

Trees meeting a U.S. grade will have these characteristics, since the grade standards require that the trees be:

Fresh—with pliable needles that are firmly attached to the branches.

Clean—practically free from vines or other undesirable foreign material.

Healthy—fresh, natural appearance for particular species.

Butt-trimmed—free of all barren branches below the first whorl of foliated branches and smoothly cut at the butt.

In addition, the specific requirements of each grade are:

U.S. Premium: not less than medium density, normal taper, and all four faces (sides) free from any type of damage.

U.S. No. 1 or U.S. Choice: not less than medium density, normal taper, and three damage-free faces.

U.S. No. 2 or U.S. Standard: light or better density; candlestick, normal, or flaring taper; and at least two adjacent damage-free faces.

Although these voluntary standards are used mainly by the wholesale trade, they can be used with good results by anyone to determine the quality of a tree. Premium or U.S. No. 1 grades mean high quality. Even a U.S. No. 2 tree, placed in a corner with its "good" faces toward the room, may be very attractive.

Selecting a Tree

A few simple procedures can make the selection of a "perfect" Christmas tree easier.

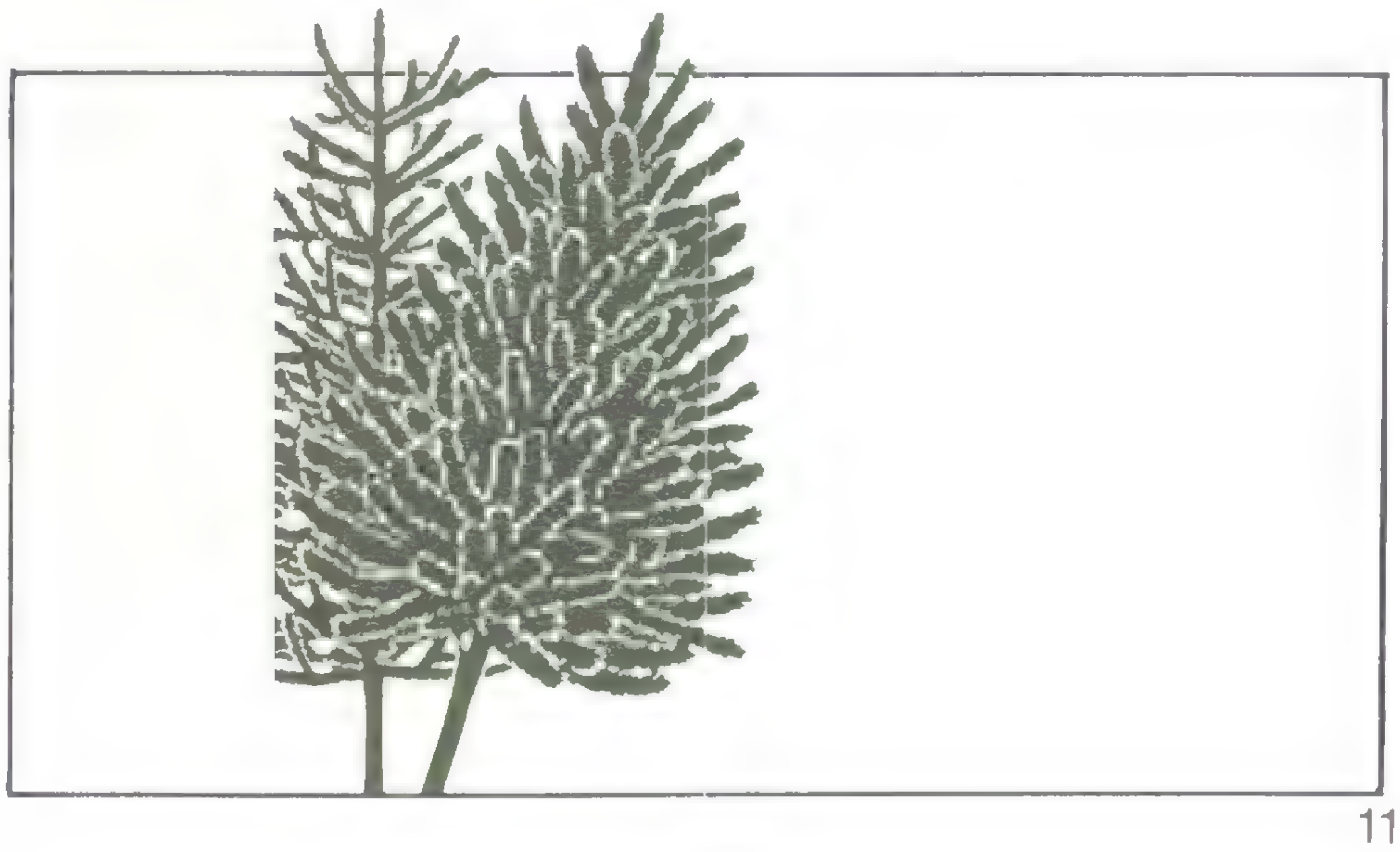
- Determine where in your home you will display your tree. With this in mind, you will be able to tell what height you will need and whether all four sides must be suitable for display.
- You should select a tree that is the right height for the space you have chosen for it. Cutting large portions off either end will alter the natural taper of the tree.
- Freshness is an important key when selecting your tree. The needles should be resilient, but not brittle. Run your finger down a branch—the needles should adhere to each twig.
- Shake or bounce the tree on the ground lightly to see that the needles are firmly attached. If only a few drop off, the tree is fresh and with proper care should retain its freshness indoors throughout the holiday season.
- The limbs should be strong enough to hold ornaments and strings of electric lights and the tree should have a strong fragrance and good green color for the species.
- Check the tree for freshness, cleanness, health, and trimming and be sure it displays the best qualities for the particular species.

Following these steps should insure a healthy, attractive tree, but the care of your tree does not stop here.

Christmas Tree Care

- If you buy your tree several days before it will be set up and decorated, store it outside. Cut the butt of the tree at a diagonal about one inch above the original cut—this opens the pores and aids in the absorption of water. Place the butt end in a container of water.
- When you bring it into the house, saw the butt again, squaring off the diagonal. This facilitates placing the tree in a stand as well as aiding absorption.
- Keep the butt end of the tree in a container of water the entire time it is in the house. Refill the container daily as the tree requires a lot of water. Sprinkling water on the branches and needles before you decorate the tree will help retain freshness.
- Be sure that the base of the tree is well-supported and the tree is placed away from fireplaces, radiators, electric heaters, televisions or any other source of heat.
- Open flames, such as lighted candles, should never be used on or near the tree. In addition, never leave your home with the Christmas tree lights still on.
- The longer the tree is indoors, the more combustible it will become. Check electric light cords for fraying and worn spots that could easily lead to fires. Also do not overload the electric circuits and avoid placing electric toys directly under the tree. Be sure to avoid the use of combustible decorations.

Following these care and precaution measures should insure an attractive tree that stays fresh indoors for more than a week and a holiday season free from Christmas tree mishaps.



Winter Reading

By this time of year most of us with interests in plants have turned our attention from the out-of-doors to our house plants—or seed catalogues full of ideas for next spring. But, what about the plants we enjoyed so much last summer and fall? The woody ones stand, for the most part, leafless, and the herbaceous ones are wrecks of dried stems, leaves, and, perhaps, fruits.

Several books available in the Garden Gate Shop provide guides to identifying plants in winter, supplemented by interesting facts about their winter condition. William Trelease, the Garden's first Director after Shaw's death in 1889, wrote the classic *Winter Botany*, first published in 1918. This work, available as a Dover reprint ($6.95) of the 1931 edition, provides a wealth of information on about 1100 species of woody plants—trees, vines, and shrubs—both native and cultivated. It is nicely illustrated with hundreds of pen-and-ink drawings. William Harlow's *Fruit Key and Twig Key to Trees and Shrubs*, also from Dover ($2.00) is a smaller volume, but the photographic illustrations are excellent and are a great aid in making identifications. Lauren Brown's *Weeds in Winter* (Houghton Mifflin, $7.95) treats the most common and spectacular herbaceous plants of the Northeast, but most are also found in our area. In addition to fine line drawings, Brown's book provides interesting and useful information about the plants she treats.

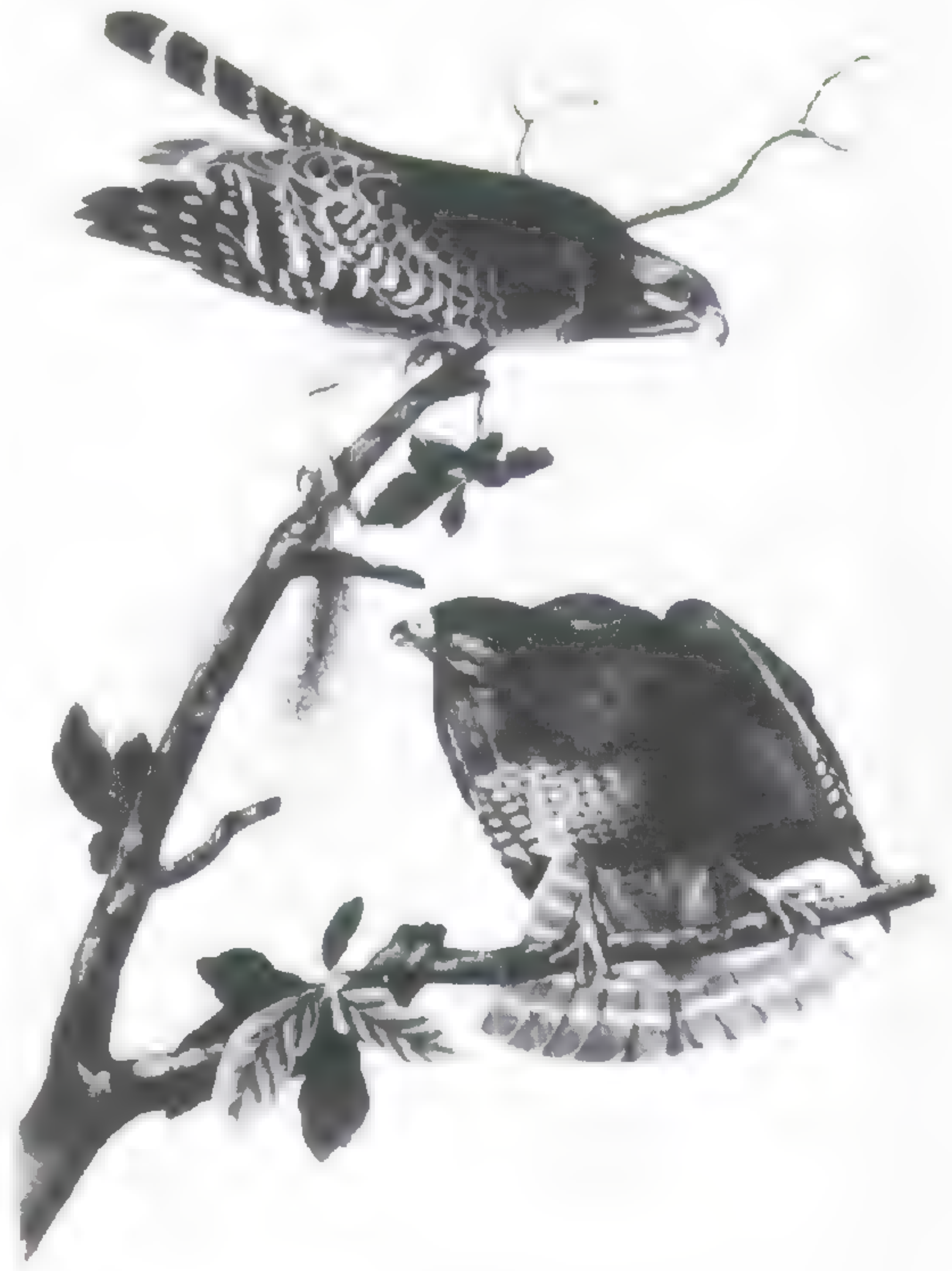
The most directly pertinent book is *A Key to Missouri Trees in Winter* by Jerry Cliburn and Ginny Klomps (Missouri Department of Conservation, $1.00). It includes keys to most of Missouri's native trees and some shrubs that reach large size. Additional useful features are diagramatic illustrations and maps showing the distribution of each species in Missouri.

So, the next time you visit the Garden, pick up one of these books in the Shop and take it with you as you take your stroll through the Garden in winter. By comparing the twigs or fruits of labeled Garden specimens with the information in your new book, you can begin your study of winter botany. Then, venture out on your own and try to use the keys and illustrations to identify unknowns in your yard or local park.

Note to Members
As of January 1, 1985, the Regular Membership fee will be $35.00.

Winter is an excellent season for visiting the Garden, especially the Japanese Garden. A family favorite is feeding the colorful carp from the "Togetsukyo" or "Bridge Across to the Moon." The massive redwood bridge was made possible through the generous donation of Mrs. Phenie R. Pott and her late husband Herman T. Pott.

Rare Bird Prints Exhibited At First Street Forum



Birds in Print: Works by John James Audubon, John Gould and Mark Catesby will be on exhibit at the First Street Forum from November 21-December 29, 1984.

The exhibition reveals selected key works by three master participants in the history of art and science of ornithological drawings. Works were chosen with consideration for the surrounding natural plants, trees and flowers in celebration of the 125th anniversary of the Missouri Botanical Garden, which contributed flowering plants to the display.

Two free, public lectures will be presented during the exhibition. Joel Oppenheimer, Assistant Director, Douglas Kenyon Gallery, will speak on Tuesday, December 4, at 2:00 p.m. at the Forum. Dr. Marshall Crosby, Director of Research, Missouri Botanical Garden, will discuss the particular specimens in the exhibition at 8:00 p.m., Tuesday, December 11, at the Garden's Ridgway Center.

First Street Forum is a not-for-profit educational art center located on Laclede's Landing, 717 North First Street. Forum hours are Tuesday-Saturday 10:00 a.m.-5:00 p.m. There is no admission charge.

Garden Travel Opportunities

To Philadelphia and Flowers: This country's major flower show plus Winterthur, Longwood Gardens, Pearl Buck's estate and more. What a wonderful few days! March 6-9; $726.00, based on double occupancy plus a $50 donation to the Garden.

To France and Elegant Gardens—a 17 day magnificent spring tour led by Alan Godlewski, chairman of horticulture. See the gardens of Paris, Normandy, Nice, and Monte Carlo. Mid May-June. $3995 per person, based on double occupancy plus a $250 donation to the Garden.

Space on both trips is limited. To receive a brochure on either trip, call Dana Hines, Membership Coordinator, at 577-5108.

The "People's Choice"

Ellis Evans was the exhibitor who walked away with the number one, "People's Choice," award during the Dahlia Show in September at the Garden. A purple dahlia with white tips was the one that visitors liked the most. The Dahlia Show was sponsored by the Greater St. Louis Dahlia Society.

Garden Hosts AABGA Meeting

The Garden was the host for the midwestern regional meeting of the American Association of Botanical Gardens and Arboreta on September 27 and 28. This was the first time this group has had a regional meeting at the Garden. There were 150 participants from throughout the midwest, which comprises the area from Ohio to Kansas and from Minnesota to Missouri. Featured speakers included Dr. Peter Raven who spoke on the role of botanical gardens and arboreta as museums now and in the future. Also featured was Dr. Michael Dirr, noted author on ornamental plants whose presentation highlighted interesting new plants for garden use.

Did You Know...

The number of visitors to the Missouri Botanical Garden since 1898, the first year figures are available, now totals 22,819,900 or an average of 242,760 visitors per year.

Library Notes

500th Anniversary of *Herbarius Latinus*

The Missouri Botanical Garden is celebrating the 500th anniversary of its first edition copy of *Herbarius Latinus*, printed in Germany in 1484 by Peter Schoeffer. An herbal, the book was primarily intended to help the reader learn about easily obtained remedies for illness or accident. All of the plants discussed are natives of Germany or in cultivation there. The charming and attractive wood-block illustrations are bold and decorative, showing little attempt at realism.

The Missouri Botanical Garden Library includes a fine collection of herbals in its Sturtevant Pre-Linnean Collection (about 1,000 volumes on botany and natural history published between 1474 and 1753). The only book in the collection which is older than *Herbarius Latinus* is Crecenzius, *Opus Ruralium Commodorum* (literally: *Work of Agricultural Advantage) Louvania, 1474.*

Planting tulips around Shoenberg Fountain in preparation for next spring's dazzling display are ***Brian*** *and* ***Brenda Ward****. The Wards are observing their tenth year as members of the Garden's horticulture staff. During their tenure at the Garden, the Wards have planted over 100,000 tulip bulbs and cared for countless other plants.*

Frowine Leaves Missouri Botanical Garden

Steve Frowine, public horticulture specialist since 1980, has resigned his position at the Garden to join the W. Atlee Burpee Company. Frowine was the Garden's public representative to the print and broadcast media bringing up-to-date information to the public about new varieties of plants and gardening techniques. He wrote a weekly column for the "Weeders and Seeders" page of the *St. Louis Post-Dispatch* and brought gardening news to listeners of KMOX radio.

Frowine said, "The experience gained working at one of the largest and finest botanical gardens in the United States will be a tremendous help in my new position."

Dr. Peter H. Raven, director of the Missouri Botanical Garden, said, "Steve has been a tremendous asset to us and has provided the community with a real service. We will move quickly to assure that there is no lapse in the flow of information to the public and our Members."

New Garden Hours In 1985

Beginning in 1985, the Missouri Botanical Garden will be open to visitors as follows:

January 1—May 26, 9 a.m. to 5 p.m.

May 27 (Memorial Day)—September 2 (Labor Day), 9 a.m. to 8 p.m.

September 3—May 26, 1986, 9 a.m. to 5 p.m.

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You never know what you'll find at the Ridgway Center. On October 11, World class domino expert Jerry McNeal, above, set up over 50,000 dominos in Monsanto Hall for a private party by Horner & Shifrin, Inc. to celebrate that company's 51 years in business.

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION (Required by 39 U.S.C. 3685)

1. Title of publication: MISSOURI BOTANICAL GARDEN BULLETIN. Publication No. 0026-6507
2. Date of filing: September 28, 1984
3. Frequency of issues: Seven times a year, in Feb., Apr., May, June, Aug., Oct., Dec. $12.00 per year
4. Location of known office of publication: 4344 Shaw, St. Louis, MO 63110
5. Location of the headquarters or general offices of the publishers: P.O. Box 299, St. Louis, MO 63166
6. Names and complete addresses of publisher and editor are: Publisher—Board of Trustees, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166. Editor—Lee B. Fox, P.O. Box 299, St. Louis, MO 63166
7. Owner: Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166
8. Known bondholders, mortgagees and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities: None
9. The purpose, function and nonprofit status of this organization and the exempt status for Federal income tax purposes has not changed during the preceding 12 months. Authorized to mail at special rates (Section 132.122, PSM).
10. Extent and nature of circulation:

	Average no. copies each issue during preceding 12 months	Actual no. copies of single issue published nearest to filing date
A. Total no. copies printed	17,500	17,600
B. Paid Circulation		
1. Sales through dealers and carriers, street vendors and counter sales.	0	0
2. Mail subscription	17,100	17,342
C. Total paid circulation	17,100	17,342
D. Free distribution	0	0
E. Total distribution	17,100	17,342
F. Copies not distributed		
1. Office use, left over, unaccounted, spoiled after printing	400	258
2. Return from news agents	0	0
G. Total	17,500	17,600

I certify that the statement made by me above is correct and complete.

(signed) Lee B. Fox, Editor
Manager of Publications

Tributes

August-September 1984

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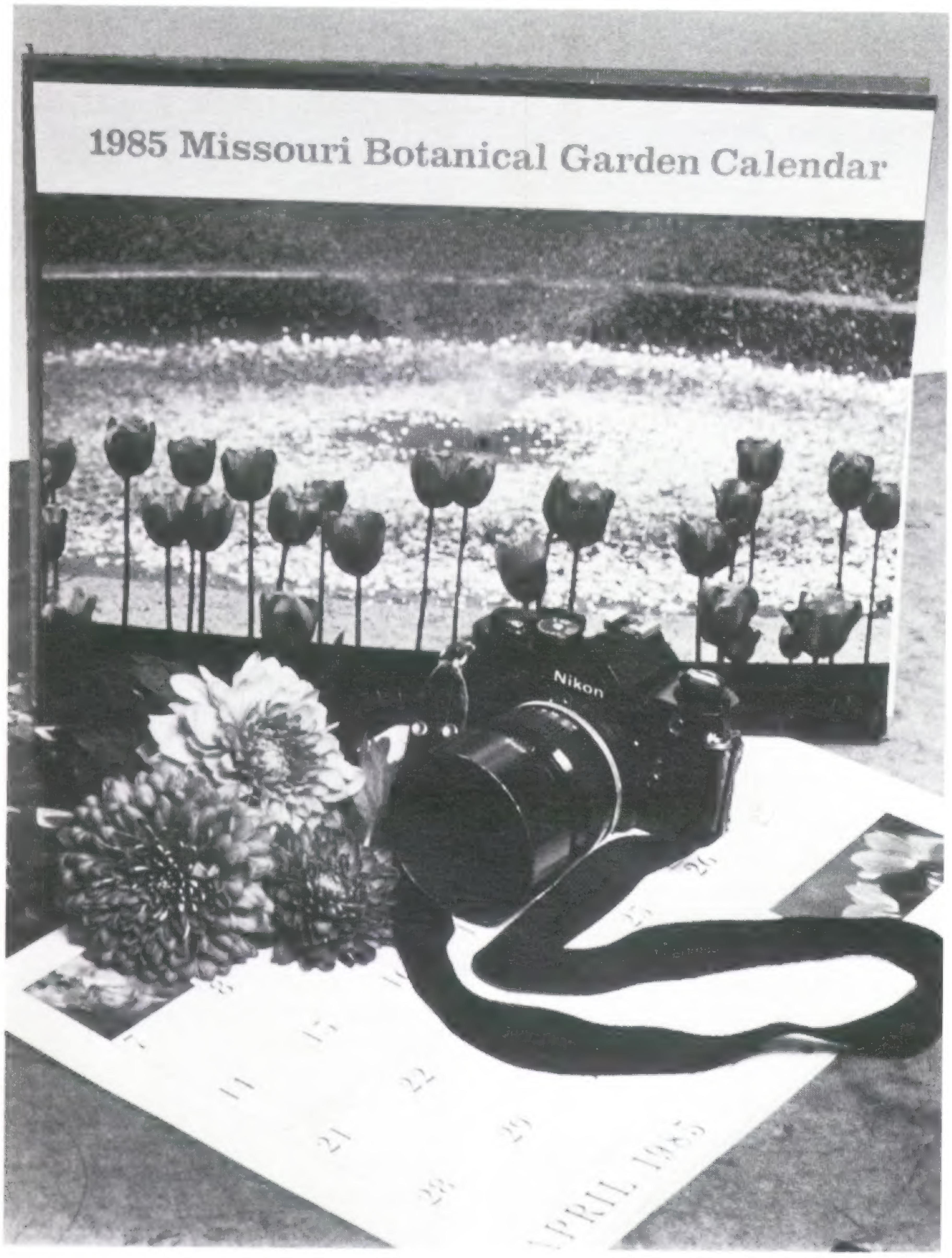

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